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ORIGINS OF SOCKEYE SALMON IN THE FISHERIES OF UPPER COOK INLET IN 1982

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March 1985

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Don W. Collinsworth
Commissioner

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Anchorage, Alaska

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ABSTRACT

The age and run composition of the commercial sockeye salmon *(Oncorhynchus nerka* Walbaum*)* harvest in Upper Cook Inlet, Alaska were estimated using scale pattern analysis, migratory timing information, and estimates of catchability. Sockeye salmon runs included in the analysis were: the Susitna River, Kenai River, Kasilof River, Crescent River, and Fish Creek. Scale measurements from fish aged 1.3 and from known origin were used to build the linear discriminant functions. Scale patterns of Susitna and Kasilof Rivers samples were similar and could not be adequately separated by linear discriminant analysis. Samples from Susitna and Kasilof Rivers were combined and a pooled Suskas category was constructed. Commercial catch samples were classified with discriminant functions to the Kenai River, Crescent River, Fish Creek, and Suskas River. Subsequently, migratory timing data and estimates of catchability for the Susitna River run were used to allocate the Suskas catch to the Susitna and Kasilof Rivers. Approximately 4.4 million sockeye salmon returned to Upper Cook Inlet in 1982 of which 78.8% were fish aged 1.3. The majority of fish commercially harvested were of Kenai River origin (52.7%), followed by Kasilof River (32.7%), Susitna River (8.5%), Crescent River (4.5%), and Fish Creek (1.6%). Run contributions to the return were: 2,350,074 Kenai River fish, 1,257,051 Kasilof River fish, 543,093 Susitna River fish, 204,898 Crescent River fish, and 78,973 Fish Creek fish. Rates of exploitation by the commercial fishery were highest for the Kasilof River (.849) and lowest for the Susitna River (.511). The exploitation rate for Kenai River fish (.731) was similar to that for Crescent River fish (.712), and higher than the exploitation rate for Fish Creek fish (.643).

KEY WORDS: Scale pattern analysis, sockeye salmon, *(Oncorhynchus nerka)*, Cook Inlet, catch allocation, migratory timing, commercial fishery exploitation.

INTRODUCTION

The Upper Cook Inlet management area is divided into two fishing districts, the Northern and Central, which include all waters north of Anchor Point (Figure 1). There are a drift net fishery and five set net fisheries in the Central District: Central District west-side, Kalgin Island, Salamatof Beach, Kalifonsky Beach, and Cohoe/Ninilchik Beach. There are two set net fisheries within the Northern District: the Northern District east-side and the Northern District west-side.

The commercial harvest of sockeye salmon *(Oncorhynchus nerka* Walbaum*)* in Upper Cook Inlet in 1982 was 3,259,864 fish; compared to an average catch from 1954 through 1981 of 1.1 million sockeye salmon. In 1982 there were 599 drift net and 747 set net permits eligible to fish and the ex-vessel value of the commercial sockeye salmon harvest was approximately $24.2 million.

Sockeye salmon returning to Upper Cook Inlet are a mixture of runs from numerous river systems. The major producers are the Kenai, Kasilof, and Susitna Rivers, followed in magnitude by Crescent River and Fish Creek (outlet stream of Big Lake). Other systems known to support sockeye salmon but for which data are limited include: McArthur-Chakachatna River, Big River, Packers Creek, Beluga River, Cottonwood Creek, and Lake Creek (outlet stream of Nancy Lake). Because the migration of the various sockeye salmon runs through the fishery overlap both spatially and temporally, the commercial fishery harvests differing proportions of fish from each river system. Estimates of the numbers of fish from each river system harvested by the commercial fishery are necessary for subsequent analyses of spawner-recruit relationships and optimum escapement goals.

Scale pattern analysis has been used to allocate Upper Cook Inlet commercial catches of sockeye salmon to component river systems since 1978 (Bethe et al. 1980; Cross et al. 1981, 1982, 1983a, 1983b). In 1982, scale pattern analysis was again used to identify the origins of commercially caught sockeye salmon. However, scale pattern analysis proved inadequate to differentiate fish of Susitna and Kasilof River origin and additional analysis of past years' migratory timing and catch-per-unit-effort (CPUE) data (Bernard and Cross in press) was needed to complete the allocation.

The purpose of this report is to allocate the 1982 commercial harvest to the five principal runs (Kenai, Kasilof, Susitna, Crescent Rivers, and Fish Creek). Estimates of run composition are combined with estimates of escapement to provide estimates of return by river system to Upper Cook Inlet. The results of this analysis add to the spawner-return data base for Upper Cook Inlet sockeye salmon systems reported by Cross et al. (1983b).

METHODS

Catches and Escapements

Commercial catch data were obtained from computer summaries dated 7 February 1984 compiled from fish tickets by the Alaska Department of Fish and Game (ADF&G). Catch figures are reported in total numbers of sockeye salmon by fishery and date.

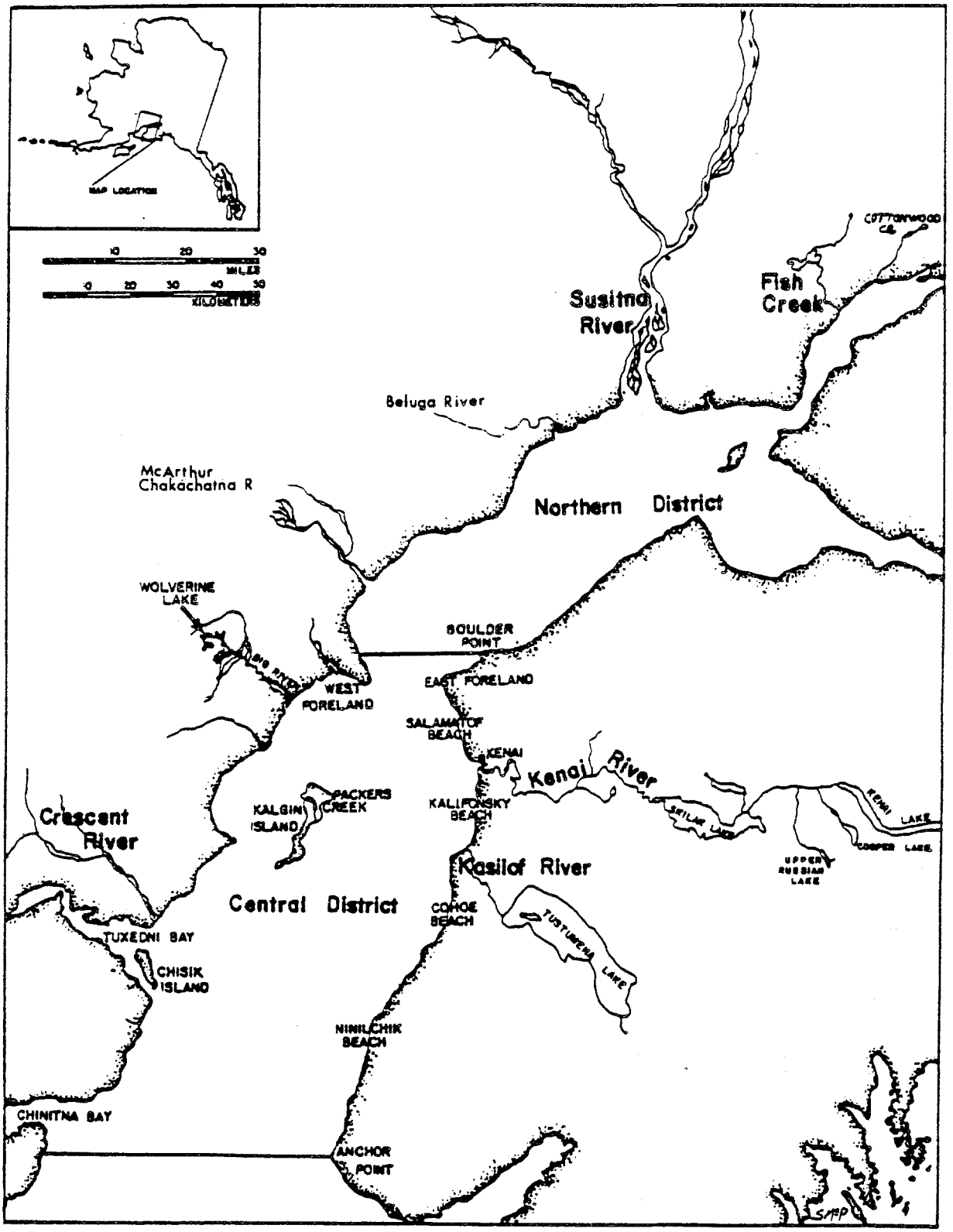

Figure 1. The Upper Cook Inlet area showing the location of the Northern and Central Districts and the major sockeye salmon spawning drainages.

Sport catch data were obtained from mail questionnaires (Mills 1983). Personal-use harvests were reported for the Kasilof River dip net (Logan et al. 1984) and gill net (Ruesch 1984) fisheries.

Escapements to the Kenai, Kasilof, and Crescent Rivers in 1982 were enumerated by the Commercial Fisheries Division of ADF&G with side-scanning sonar (King and Tarbox 1983). Sockeye salmon escapement into the Susitna River was monitored by both: (1) ADF&G, Commercial Fisheries Division with side-scanning sonar at Susitna Station (King and Tarbox 1983); and (2) the Susitna Hydroelectric Project, ADF&G with a combination of sonar and mark-recapture techniques (ADF&G 1983). Because the sonar at Susitna Station was not operable during the peak of migration in 1982, we used the total sonar count at Yentna Station coupled with the mark-recapture estimate for Sunshine Station (Susitna Hydroelectric estimates) for the total escapement into the Susitna River.

Escapements of sockeye salmon into Fish and Cottonwood Creeks were counted at weirs (Chlupach 1983). The Cook Inlet Aquaculture Association (1982a, 1982b) enumerated sockeye salmon escapements into Wolverine (tributary to Big River) and Packers Creeks with fish weirs. Sockeye salmon escapement into the McArthur-Chakachatna Rivers was estimated from spawning ground surveys (Bechtel Civil and Minerals, Inc. 1983).

Estimates of the numbers of spawners equaled escapement minus any fish taken upstream of where the escapements were counted. Sport and personal-use harvests on the Kasilof River occurred downstream of the enumeration site, hence, we did not subtract them from the escapement to estimate numbers of spawners. Sport fishing for sockeye salmon on the Susitna River occurred above and below the sites of tagging and recovery. Susitna River sport harvests were subtracted from the estimated escapement to calculate numbers of spawners. Sport harvests from the Russian River and from the mainstem of the Kenai River above the Soldotna bridge were subtracted from the Kenai River escapement to estimate numbers of spawners.

The Division of Fisheries Rehabilitation, Enhancement, and Development (FRED) of ADF&G have taken eggs from the Kasilof River for artificial propagation since 1974 and have released some of the offspring into systems other than the Kasilof River. We estimated the numbers of adults taken for eggs whose offspring were not returned to the Kasilof River by applying the percentage of fry not returned to the number of adults; and subsequently we subtracted these fish from escapements to estimate numbers of spawners. We included as spawners those fish taken for eggs whose progeny were returned to the Kasilof River and assumed survival rates between fish reared naturally and artificially to be equal. The numbers of adults taken for eggs, and the number of fry released by area were from Flagg et al. (1985).

Age Composition

Ages of sockeye salmon were determined by examining scales. Scales were collected from the left side of the fish approximately two rows above the lateral line and on the diagonal row downward from the posterior insertion of the dorsal fin (INPFC 1963). Scales were mounted on gummed cards and impressions were made in cellulose acetate (Clutter and Whitesel 1956). Ages were recorded in European

notation[1]. Sex was recorded for each fish sampled and lengths (mid-eye to fork of tail) and weights were determined for a sub-sample of the fish.

Commercial Catch:

Scales were collected from commercial catches of sockeye salmon from 25 June through 29 July, after which time harvests were small and were not sampled. We attempted to collect 500 scales per 12-hour fishing period from the drift net harvest, unless fishing occurred on consecutive days in which case we sampled 250 scales from each days catch. From the set net harvests, we collected 250 scales per 12-hour fishing period or each two consecutive days of fishing. Early and late in the season, set net harvests were small which restricted the numbers of scales collected. Estimates of age composition were made for each fishing period when sufficient scales were sampled (≥150). If fewer than 150 samples were collected, dates were pooled to obtain approximately 150 samples and an age composition for the pooled periods was estimated.

Estimates of age composition and variances of those estimates were calculated for each fishery with procedures outlined in Cochran (1977) for a stratified sampling program:

$$C_{tJ} = C_t P_{tJ} \qquad V[C_{tJ}] = (C_t)^2 \frac{P_{tJ}(1-P_{tj})}{N_t - 1}$$

$$C_{\cdot j} = \sum_{t=1}^{T} C_{tJ} \qquad V[C_{\cdot J}] = \sum_{t=1}^{T} V[C_{tJ}]$$

Where:

C_t = Number of fish caught during stratum t.

P_{tJ} = Fraction of the sample taken during stratum t that is age J.

N_t = Sample size for stratum t.

C_{tJ} = Estimated number of fish of age J caught during stratum J.

T = Number of strata.

$C_{\cdot J}$ = Estimated number of fish age age J caught during the season.

The correction factor for finite populations is not included in the above equations

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[1] European formula: Numerals preceding the decimal refer to the number of freshwater annuli, numerals following the decimal are the number of marine annuli. Total age from the brood year is the sum of these two numbers plus one.

because sample sizes were small relative to catches. Because some of the sample strata for age composition of the set net harvests are combined to obtain a desired sample size with no knowledge of trends through time, the variance estimates are probably minimum values.

Sport and Personal-Use Harvests:

Scales were not collected from fish caught in the sport fisheries. The age compositions of the respective escapements were applied to the sport catches to estimate the numbers of fish harvested by age. Scales were collected from the gill net catches made by the personal-use fishery.

Escapements:

Scales were collected from and the age composition estimated for sockeye salmon returning to eight river systems in Upper Cook Inlet. Fish were captured from the Susitna, Kenai, and Kasilof Rivers by fishwheels (King and Tarbox 1983). Sockeye salmon returning to Crescent River were captured with a beach seine (King and Tarbox 1983). Fishwheels were used to sample fish from Big River and dip nets were used at the weir on Packers Creek (Cook Inlet Aquaculture Association 1982a, 1982b). Sockeye salmon returning to Fish and Cottonwood Creeks were sampled at weirs (Chlupach 1983).

The number of scales sampled and times at which they were sampled varied among the eight river systems. On the Susitna, Kenai, and Kasilof Rivers all sockeye salmon captured in the fishwheels were sampled until a sample size of 300 fish had been attained. Subsequently, a minimum of 40 fish per day (or 280 per week) were sampled. For the other rivers, the sampling goal was 500 fish sampled throughout the run.

Estimates of age composition were made for early, middle, and late portions of the run into the Kenai River. Sonar counts corresponding to those times were used in place of catch in the aforementioned equations to expand sample information to a seasonal estimate. The age composition of Big River was also stratified through time, early and late. Estimates of total escapement are not available for Big River, therefore proportions by age were not expanded by numbers.

For the other rivers, daily samples were added together over the season and proportions by age group were calculated for one time stratum. Sonar counts, weir counts, or mark-recapture estimates were used in place of catch in the above equations to expand sample information to a seasonal estimate. Scales were not collected from fish taken for eggs from the Kasilof River. The age composition of the Kasilof River sockeye salmon escapement was applied to these fish.

Scale Pattern Analysis

Linear discriminant analysis of scale patterns was used to differentiate fish returning to component river systems. Because age 1.3 fish dominated the commercial catch, we limited our analysis of scale patterns to the 1.3 age group.

Scale Measurements:

Scale impressions were projected at 100X magnification using equipment similar to that described by Ryan and Christie (1976). Scale measurements were recorded on computer diskettes from a Talos digitizing tablet connected to a Vector Graphics microcomputer. Measurements were taken along the anterior-posterior axis of each scale. The distance between each circulus in five zones was measured along the axis. The zones measured were: (1) scale focus to the last circulus of the freshwater annulus; (2) last circulus of the freshwater annulus to the last circulus of the plus growth; (3) last circulus of the plus growth to the last circulus of the first ocean annulus; (4) last circulus of the first ocean annulus to the last circulus of the second ocean annulus; (5) last circulus of the second ocean annulus to the first circulus of the winter check in the third ocean annulus (Figure 2). A set of 11 variables was then calculated for each of the five zones (Table 1).

Discriminant Analysis:

Escapement samples provided scales of known origin that were used to build the linear discriminant functions. Of the 55 scale variables calculated for each fish (11 variables for each of the five zones), a subset of 10 variables was submitted to the stepwise linear discriminant function analysis. Variables which were significantly different between the sexes were excluded from the analysis, these included all variables in zones four and five. All scale variables not normally distributed within each group were also excluded from the discriminant models. The variables entered in the analysis were: the number of circuli and width of zones one, two, and three (NC1, ID1, NC2, ID2, NC3, ID3), the distance from the focus to the second circulus in the freshwater zone (TWO1), the distance from the focus to the fourth circulus in the freshwater zone (FOUR1), and the minimum and maximum distance between any two circuli in the freshwater zones (MIN1, MAX1). Variables were selected for each model by a stepwise procedure using the F statistic as the criterion for variable entry removal to the model. Variables were added until model accuracy ceased to improve. The accuracy of a model was estimated by a jackknife procedure[1].

A five-way linear discriminant model was constructed from scale measurements of age 1.3 scales representing fish entering the Susitna, Kenai, Kasilof, and Crescent Rivers and Fish Creek. The accuracy of this model for distinguishing Susitna fish from Kasilof fish was very poor. Consequently, we decided to pool samples from Susitna and Kasilof Rivers and create a hypothetical Suskas River. A four-way linear discriminant model was then constructed using scales representing fish from Susitna and Kasilof River combined, Kenai River, Crescent River, and Fish Creek.

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[1] A jackknife procedure works as follows: (1) for standards with n fish, one fish is selected and a discriminant function is built on information from the remaining n-1 scales, (2) the selected scale is classified to a group with the discriminant function, and (3) the procedure is repeated n times with a different scale selected each time. Accuracy is the percentage of fish assigned to the correct origin.

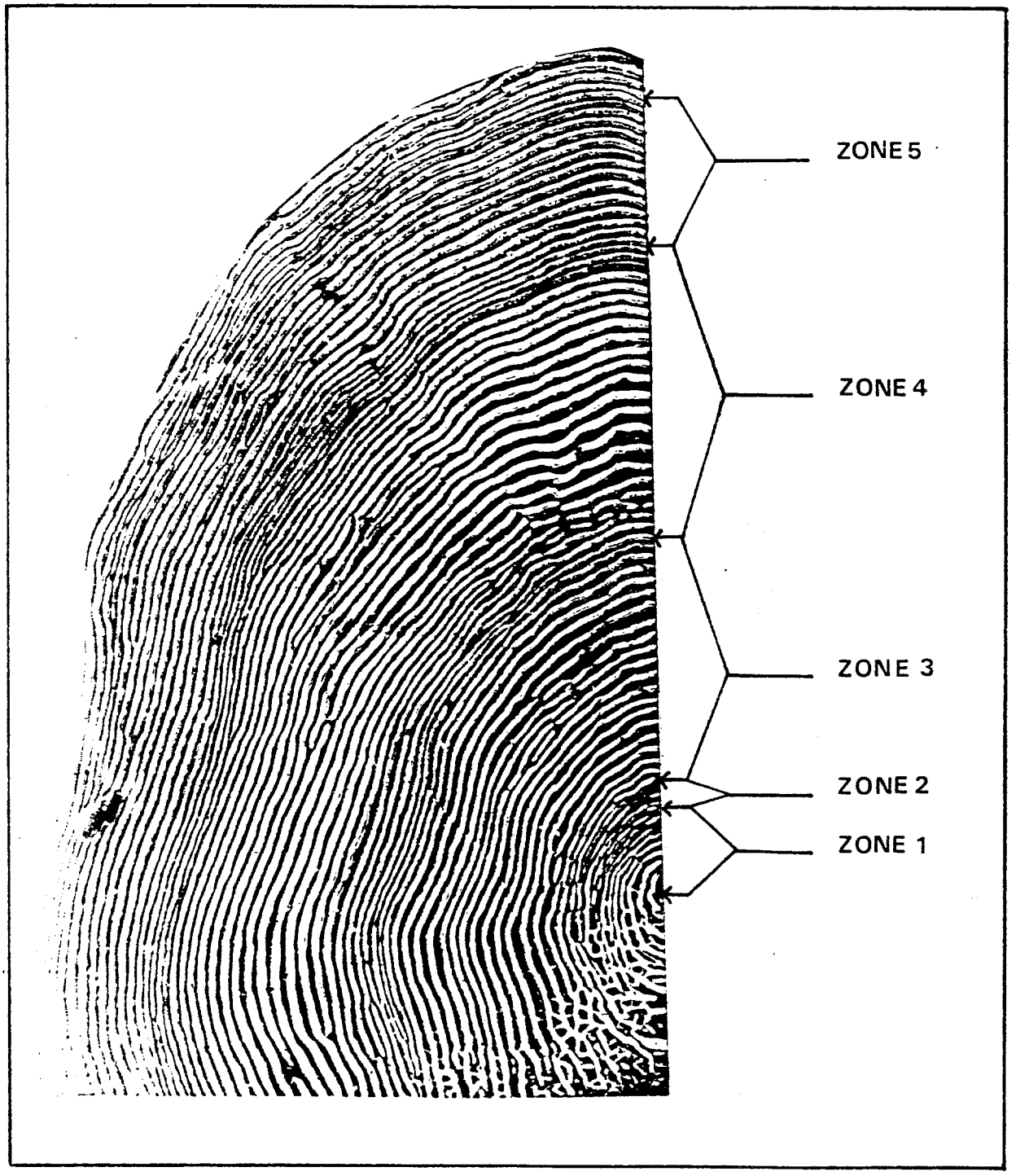

Figure 2. Age 1.3 sockeye salmon scale showing the zones measured to generate the variables to build linear discriminant functions.

Table 1. Scale pattern variables which were used to build linear discriminant functions.

Variable Name	Description
NC (i)[1]	Number of circuli in zone (i).
ID (i)	Width of zone (i).
TWO (i)	Distance from the beginning of zone (i) to the second circulus of zone (i).
FOUR (i)	Distance from the beginning of zone (i) to the fourth circulus of zone (i).
SIX (i)	Distance from the beginning of zone (i) to the sixth circulus of zone (i).
EIGHT (i)	Distance from the beginning of zone (i) to the eighth circulus of zone (i).
MIN (i)	Distance between the two closest circuli in zone (i).
MAX (i)	The maximum distance between two contiguous circuli in zone (i).
LMIN (i)	The distance from the beginning of zone (i) to the first circulus of variable MIN (i) in zone (i).
LMAX (i)	The distance from the beginning of zone (i) to the first circulus of variable MAX (i) in zone (i).
NCH (i)	The number of circuli in the first half of zone (i).

[1] Where i = 1, 2, 3, 4, 5.

Other linear discriminant models were constructed as needed to classify catch samples. We assumed that Crescent River fish do not contribute significantly to the east-side beach set net harvests. Therefore, we constructed a three-way model which included Suskas River, Kenai River, and Fish Creek to classify samples from the east-side set net harvests. We also assumed that Kenai River and Kasilof River fish do not contribute significantly to catches made by set nets on the west-side. To classify samples from west-side harvests we built a three-way model which included Susitna River, Crescent River, and Fish Creek.

Catch Allocation Using Scale Pattern Analysis:

Linear discriminant models were used to assign unknown samples (age 1.3 scales from the commercial catches) to the Suskas River, Kenai River, Crescent River, or Fish Creek. Estimates of proportions by run in the catch were adjusted for misclassification errors by the model usin the procedure of Cook and Lord (1978). The variance and 90% confidence intervals for the adjusted estimates were computed using the procedures of Pella and Robertson (1979)[1]. A catch sample was reclassified with a model representing fewer runs if the adjusted proportion was less than or equal to zero for the run in question.

We calculated the numbers of fish aged 1.3 by run in a specific catch from the product of the estimate of the run proportion by scale pattern analysis, the estimate of the function of the catch of that age, and the catch:

$$\hat{C}_{i1.3} = C\hat{P}_{1.3}\hat{S}_{i1.3}$$

Where:

C = Catch of sockeye salmon in a fishery at a given time.

$\hat{C}_{i1.3}$ = Estimated catch of fish aged 1.3 returning to run i.

$\hat{P}_{1.3}$ = Estimated proportion of fish aged 1.3 in the catch.

$\hat{S}_{i1.3}$ = Estimated proportion of run i aged 1.3 in the catch.

The variance of the estimated catch of sockeye salmon aged 1.3 from each run in a specific fishery at a given time was calculated as an exact variance of a product according to Goodman (1960):

$$V[\hat{C}_{i1.3}] = C^2V[\hat{P}_{1.3}\hat{S}_{i1.3}]$$

$$V[\hat{P}_{1.3}\hat{S}_{i1.3}] = V[\hat{P}_{1.3}]\hat{S}^2_{i1.3} + V[\hat{S}_{i1.3}]\hat{P}^2_{1.3} - V[\hat{S}_{i1.3}]V[\hat{P}_{1.3}]$$

[1] According to Cook (1982), the procedures of Pella and Robertson (1979) produce confidence intervals and variances which are conservative (too large for the specified precision).

The contributions by run through time for a specific fishery were added to estimate the contribution to that fishery for the entire year; the variance of the yearly contribution was calculated as the sum of the variances for each time period. Finally the contributions by run to each fishery were added to produce the total contribution by run to the Upper Cook Inlet age 1.3 sockeye salmon harvest, and the variance of the total contribution by run was calculated as the sum of the variances for each fishery. Variances calculated for run contributions which were estimated from samples pooled over time are probably minimum, changes in age composition or run composition through the pooled time period are unknown.

Separation of Susitna and Kasilof Catches

The numbers of age 1.3 sockeye salmon caught in the commercial fishery which were bound for the combined Susitna-Kasilof Rivers were estimated by analysis of scale patterns. We used data on migratory timing, fishing effort, and survival rates to separate Susitna River catches from Kasilof River catches. A detailed explanation of the methods used to separate Susitna River and Kasilof River catches and an interpretation of the results are documented in Bernard and Cross (in press). A brief description of the equations and methods is presented in Appendix A.

Catch Allocation for the "Other" Age Groups

Age groups other than fish aged 1.3 were allocated to river based on the estimate for fish aged 1.3 and the ratio of fish aged 1.3 to fish of other age groups in respective escapements:

$$\hat{S}_{ij} = \frac{\hat{S}_{i1.3}(\hat{A}_{ij}/\hat{A}_{i1.3})}{\sum_{i=1}^{N} \hat{S}_{i1.3}(\hat{A}_{ij}/\hat{A}_{i1.3})}$$

Where:

$\hat{S}_{ij}$ = Estimated proportion of run i in the catches of fish aged j.

$\hat{S}_{i1.3}$ = Estimated proportion of run i in the catches of fish aged 1.3.

$\hat{A}_{ij}$ = Estimated proportion of age j fish in the escapement of run i.

$\hat{A}_{i1.3}$ = Estimated proportion of fish aged 1.3 in the escapement of run i.

N = Number of runs.

The numbers of sockeye salmon of age i contributing to a catch were then calculated as:

$$\hat{C}_{ij} = C\hat{P}_j\hat{S}_{ij}$$

Where:

$\hat{C}_{ij}$ = Estimated numbers of fish aged j in run i caught in a fishery.

$\hat{P}_j$ = Estimated proportion of fish aged j in a catch.

C = Numbers of fish caught.

Returns

Numbers of fish returning by age to each river were estimated by adding the commercial catch by run, the sport and personal-use harvests, and the numbers of spawners. Ratios of returns to spawners were calculated for the Susitna, Kenai, Kasilof, and Crescent Rivers. Return estimates and ratios to spawners for past years were from Cross et al. (1983b).

RESULTS

Catches and Escapements

Commercial fishermen harvested 3,259,864 sockeye salmon in Upper Cook Inlet in 1982 (Table 2). The majority (64%) of the fish were harvested by the drift fishery which caught 2,103,429 sockeye salmon. Set nets along the east-side beaches harvested 971,423 sockeye salmon which was 30% of the inlet-wide catch. Northern District fisheries took 4% of the catch of sockeye salmon (118,060) and the remaining 2% were caught in set nets along Kalgin Island (39,645) and the Central District west-side (27,307). Peak catches occurred during the two weeks from 12 July to 26 July.

Most sport fishing for sockeye salmon occurred on the Kenai River and on its tributary, the Russian River (Table C-1). In 1982, an estimated 95,675 sockeye salmon were caught by sport fishermen on the Kenai River. Of the total Kenai River sport harvest, 45,572 sockeye salmon were caught on the Russian River, 38,397 sockeye salmon were taken on the mainstem of the river above the Soldotna bridge, and 11,706 sockeye salmon were harvested on the mainstem below the Soldotna bridge. Combined sport and personal-use harvests of Kasilof River sockeye salmon were 9,996 fish. At the mouth of the Kasilof River, an estimated 1,800 sockeye salmon were taken by the dip net fishery, 653 sockeye salmon were caught by hook and line, and 7,543 sockeye salmon were harvested by gill net. The sport harvest on the Susitna River was 2,645 sockeye salmon.

In 1982, 11,571 sockeye salmon were taken from the Kasilof River for eggs. The progeny from approximately 88.9% of the fish were returned to the Kasilof River. The estimated numbers of adults removed from Kasilof River and whose offspring were not returned was 1,284 sockeye salmon (Table C-1).

More than 1.2 million sockeye salmon escaped Upper Cook Inlet commercial fisheries in 1982 (Table 3). Sockeye salmon escapements are not regularly monitored in several systems in Upper Cook Inlet (Big River, McArthur-Chakachatna Rivers, Beluga River), therefore the above figure is a minimum estimate. The largest escapement of sockeye salmon occurred in the Kenai River (619,831), followed by the Susitna

Table 2. Sockeye salmon commercial catch in numbers of fish by fishery and date, Upper Cook Inlet, 1982[1].

Date	Northern Dist. East-side Set	Northern Dist. West-side Set	Central Dist. Drift	Central Dist. West-side Set	Kalgin Island Set	Salamatof Beach Set	Kalifonsky Beach Set	Cohoe/Ninilchik Beach Set	Total
6/18	Closed	Closed	Closed	678	Closed	Closed	Closed	Closed	678
6/21	Closed	Closed	Closed	897	Closed	Closed	Closed	Closed	897
6/25	141	91	3,748	3,612	434	1,151	3,038	4,753	18,968
6/28	51	15	16,691	807	5,078	255	784	4,148	27,829
7/02	76	47	40,591	2,775	1,596	279	691	9,296	55,351
7/05	62	59	63,559	2,629	1,056	156	260	10,936	78,717
7/09	396	214	162,138	2,958	1,117	709	1,305	17,531	186,368
7/12	1,341	489	258,331	931	1,295	914	10,009	19,493	292,803
7/16	5,501	18,193	558,576	3,152	3,858	12,408	17,613	12,988	632,289
7/17	Closed	Closed	Closed	Closed	Closed	Closed	Closed	19,506	19,506
7/18	Closed	Closed	Closed	Closed	Closed	Closed	Closed	25,383	25,383
7/19	28,021	23,588	280,950	2,743	6,861	94,000	34,483	24,037	502,683
7/20	Closed	Closed	255,038	Closed	2	33,623	9,686	11,462	309,809
7/21	Closed	Closed	119,518	Closed	2,404	30,763	15,398	18,624	186,707
7/22	Closed	Closed	12,981	Closed	975	30,437	24,067	24,209	92,669
7/23	6,875	4,986	16,938	1,055	1,684	18,266	12,603	18,958	83,365
7/24	Closed	Closed	125,309	Closed	600	33,698	38,655	25,618	223,880
7/25	Closed	Closed	48,080	Closed	Closed	34,036	19,513	25,172	126,801
7/26	4,675	12,780	64,882	1,710	3,233	41,782	26,825	23,661	179,548
7/27	Closed	Closed	15,877	Closed	228	19,243	8,933	6,506	50,787
7/28	Closed	Closed	17,307	Closed	Closed	10,174	7,348	8,403	43,232
7/29	Closed	Closed	6,969	Closed	616	17,777	11,757	Closed	37,119
7/30	1,324	1,477	8,565	1,166	3,442	5,857	5,401	3,583	30,815
7/31	988	3,743	5,229	484	1,268	3,030	2,659	1,640	19,041
8/01	Closed	Closed	284	Closed	234	1,858	1,613	Closed	3,989
8/02	517	384	3,250	450	877	880	1,231	1,483	9,072
8/04	337	155	2,281	355	894	1,564	1,001	721	7,308
8/06	373	203	762	138	531	701	543	540	3,791
8/09	113	52	540	172	362	427	463	306	2,435
8/11	151	201	213	198	247	276	259	284	1,829
8/12	Closed	Closed	10	Closed	4	195	165	167	541
8/13	23	27	132	92	142	113	174	231	934
8/15	Closed	Closed	0	Closed	Closed	365	181	189	735
8/16	80	17	118	79	193	Closed	Closed	Closed	487
8/18	Closed	208	48	50	116	Closed	Closed	Closed	422
8/20	32	4	100	44	67	Closed	Closed	Closed	247
8/23	18	2	1,794	31	76	Closed	Closed	Closed	1,921
8/25	2	2	582	22	62	Closed	Closed	Closed	670
8/27	14	0	19	21	43	Closed	Closed	Closed	97
8/30	9	1	8	16	29	Closed	Closed	Closed	63
9/01	0	2	3	17	12	Closed	Closed	Closed	34
9/03	0	0	6	13	10	Closed	Closed	Closed	29
9/06	0	0	1	10	1	Closed	Closed	Closed	12
9/08	0	0	1	1	0	Closed	Closed	Closed	2
9/10	0	0	0	1	0	Closed	Closed	Closed	1
Total	51,120	66,940	2,103,429	27,307	39,645	394,937	256,658	319,828	3,259,864

[1] Catch statistics were taken from the Alaska Department of Fish and Game fish ticket summaries, the IBM statistical run was dated 7 February 1984.

[2] The Kalgin Island subdistrict was open on 20 July beginning 6:00 p.m., however, no catches were landed that day.

Table 3. Escapement of sockeye salmon in Upper Cook Inlet, 1982.

System	Numbers	Method
Susitna River		
Susitna Station[1]	123,913	Sonar
Yentna Station[2]	113,847	Sonar
Sunshine Station[2]	151,485	Mark/recapture
Talkeetna Station[2]	3,123	Mark/recapture
Curry Station[2]	1,261	Mark/recapture
Total[3]	265,332	
Kenai River[1]	619,831	Sonar
Kasilof River[1]	180,239	Sonar
Crescent River[1]	58,957	Sonar
Fish Creek[4]	28,164	Weir
Cottonwood Creek[4]	18,358	Weir
Packers Creek[5]	15,826	Weir
Big River[5]		
Wolverine Creek	32,980	Weir
Clearwater Spawning Areas	10,000-20,000	Aerial Surveys
McArthur-Chakachatna Rivers[6]	78,570	Ground Surveys
Beluga River[1]		
Coal Creek	12,240	Aerial Surveys

[1] Source: King and Tarbox, 1983.

[2] Source: Susitna Hydrological Studies, ADF&G, 1983.

[2] Estimate of total Susitna River escapement equals the summation of the Yentna River and Sunshine station escapement estimates.

[4] Source: Chlupach, 1983.

[5] Source: Cook Inlet Aquaculture, 1982a and 1982b.

[6] Source: Bechtel Civil and Minerals, Inc., 1983.

River (265,332), Kasilof River (180,239), and Crescent River (58,957). Other rivers which had substantial numbers of sockeye salmon returning included: Wolverine Creek (32,980), Fish Creek (28,164), Cottonwood Creek (18,358), Packers Creek (15,826), and Coal Creek (12,240). Daily counts of sockeye salmon escapement peaked on 21 July at Yentna Station and 22 July at Susitna Station on the Susitna River, 20 July at Kenai River, 18 July at Kasilof River, 20 July at Crescent River, 24 July at Fish Creek, 30 July at Cottonwood Creek, 4 August at Packers Creek, and 28 June at Wolverine Creek (Tables B-1 - B-9).

Age Composition

Sockeye salmon aged 1.3 dominated the commercial catch, comprising 80% of the total; while fish aged 1.2, 2.3, and 2.2 comprised 9%, 7%, and 3%, respectively (Table 4). Although sockeye salmon aged 1.3 were predominant in the catches of all fisheries, differences in age proportions among the fisheries did exist. Fish aged 1.2 and 1.3 were caught in similar proportions by the drift fishery (7% age 1.2 and 84% age 1.3) and set nets on Salamatof Beach (4% age 1.2 and 86% age 1.3). Fish aged 1.2 comprised more of the catches by the set nets along the Northern District east-side (18% age 1.2 and 70% age 1.3), the Northern District west-side (15% age 1.2 and 75% age 1.3), Cohoe/Ninilchik Beach (22% age 1.2 and 64% age 1.3), and Kalifonsky Beach (17% age 1.2 and 71% age 1.3) than by the drift fishery. Catches made along Kalgin Island had larger percentages of fish aged 2.2 and 2.3 (15% and 16%, respectively) than catches made elsewhere. Age composition of the catch differed not only spacially, but also temporally. The percentages of age 1.3 fish in catches made by the drift fishery and set nets on Salamatof and Kalifonsky Beaches increased early in the season, leveled off during peak catches, and then decreased towards the end of the season (Tables C-2 - C-4). On Cohoe/Ninilchik Beach, the percentages of fish aged 1.3 remained fairly constant throughout the season; while percentages of age 1.2 fish increased initially and then leveled off (Table C-5). Catches made by Northern District set nets had large percentages of age 1.2 fish early in the season when catches were low, but as catch numbers increased so did the contribution of the 1.3 age group (Tables C-6 - C-7). Percentages of fish aged 1.3 decreased through time in the catches made along Kalgin Island, conversely percentages of age 2.2 and 2.3 fish increased (Table C-8). The percentage of fish aged 2.3 in the catches made by set nets on the west-side of the Central District decreased after the first week of fishing while the age 1.3 percentage increased (Table C-9). Length and weight compositions of sockeye salmon catches by fishery are presented in Tables C-10 - C-17.

Age compositions of sockeye salmon entering the rivers in Upper Cook Inlet varied considerably among runs (Table 5). Sockeye salmon escapement into the Kenai River was dominated (87%) by fish aged 1.3. Fish aged 1.3 were also predominant in the escapements to Susitna and Kasilof Rivers (60% and 54%, respectively); however the 1.2 age group comprised larger portions of their escapements (24% and 31%, respectively) relative to the percentage in the Kenai River (6%). Sockeye salmon escaping to Crescent River were mostly age 1.3 fish (79%) and those entering Fish Creek were predominantly age 1.2 and age 1.3 (24% and 65%, respectively). Escapement of sockeye salmon into Cottonwood Creek consisted primarily of fish aged 1.2 (80%), and the escapement into Packers Creek was more evenly comprised of fish aged 1.2 and 2.2 (37% and 29%, respectively). Samples taken from Big River from 13 June through 25 June had 39% age 1.3 fish and 21% age 2.2 fish. Percentages of fish aged 1.3 dropped to 13% and percentages of fish aged 2.2 increased to 48% from 26 June through 1 August in Big River.

Table 4. Age composition by fishery of the commercial sockeye salmon harvest, Upper Cook Inlet, 1982.

Fishery		AGE GROUP 1.1	1.2	2.1	1.3	2.2	3.1	1.4	2.3	2.4	Total
Northern East-side Set Net	Percent	0.93	17.72	0.08	70.02	5.01	0.00	0.00	6.24	0.00	100.00
	Numbers	477	9,058	39	35,796	2,562	0	0	3,188	0	51,120
	Standard Error	111	851	39	1,060	504	0	0	604	0	
Northern West-side Set Net	Percent	0.86	15.00	0.12	74.62	2.90	0.15	0.35	5.99	0.00	100.00
	Numbers	574	10,042	83	49,952	1,943	103	233	4,010	0	66,940
	Standard Error	253	956	84	1,144	414	104	165	625	0	
Central District Drift Net	Percent	0.03	6.55	0.00	83.72	2.16	0.00	0.17	7.36	0.00	100.00
	Numbers	532	137,830	72	1,761,089	45,521	0	3,606	154,779	0	2,103,429
	Standard Error	396	8,368	72	12,794	4,816	0	1,611	9,223	0	
Central West-side Set Net	Percent	0.08	10.34	0.11	77.18	2.64	0.00	0.03	9.62	0.00	100.00
	Numbers	23	2,823	30	21,076	722	0	7	2,626	0	27,307
	Standard Error	23	253	31	328	112	0	8	217	0	
Kalgin Island Set Net	Percent	0.10	13.36	0.03	56.01	14.70	0.00	0.05	15.75	0.00	100.00
	Numbers	40	5,296	10	22,207	5,829	0	20	6,243	0	39,645
	Standard Error	41	405	11	576	423	0	15	456	0	
Salamatof Beach Set Net	Percent	0.09	3.72	0.00	85.93	1.26	0.00	0.01	8.98	0.00	100.00
	Numbers	367	14,710	19	339,368	4,968	0	51	35,454	0	394,937
	Standard Error	192	1,720	10	3,360	906	0	51	2,891	0	
Kalifonsky Beach Set Net	Percent	0.04	16.93	0.03	70.97	6.45	0.00	0.05	5.53	0.00	100.00
	Numbers	93	43,461	84	182,124	16,554	0	144	14,189	9	256,658
	Standard Error	85	2,358	84	2,820	1,572	0	103	1,394	9	
Cohoe/ Ninilchik Beach Set Net	Percent	0.24	22.15	0.00	64.43	6.88	0.00	0.01	6.29	0.00	100.00
	Numbers	760	70,827	0	206,077	22,017	0	16	20,131	0	319,828
	Standard Error	240	3,023	0	3,414	2,040	0	16	1,439	0	
Total	Numbers	2,866	294,047	337	2,617,689	100,116	103	4,077	240,620	9	3,259,864
	Percent	0.09	9.02	0.01	80.30	3.07	0.00	0.13	7.38	0.00	100.00
	Standard Error	580	9,463	148	14,052	5,591	104	1,624	9,922	9	

Table 5. Age composition by river of sockeye salmon escapement, Upper Cook Inlet, 1982.

System	Period	Sample Size		0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.2	Total
Susitna[1]	7/01-9/15	1,032	Percent		2.3	23.5	59.6		0.5	3.3	10.8		100.0
			Numbers		6,102	62,353	158,138		1,327	8,756	28,656		265,332
			St. Error		1,239	3,504	4,055		583	1,476	2,565		
Kenai River[1]	6/22-7/17	151	Percent		0.6	6.0	86.1			3.3	4.0		100.0
			Numbers		276	2,482	35,841			1,378	1,654		41,631
			St. Error		262	807	1,176			607	666		
	7/18-7/21	954	Percent		0.1	4.9	88.5			2.4	4.1		100.0
			Numbers		322	15,155	272,149			7,416	12,576		307,618
			St. Error		315	2,151	3,179			1,525	1,976		
	7/22-8/04	682	Percent			6.7	86.5	0.2		3.4	3.2		100.0
			Numbers			18,250	234,082	397		9,125	8,728		270,582
			St. Error			2,592	3,543	463		1,879	1,825		
	Total	1,787	Percent		0.1	5.8	87.5	trace		2.9	3.7		100.0
			Numbers		598	35,887	542,072	397		17,919	22,958		619,831
			St. Error		410	3,464	4,903	463		2,495	2,771		
Kasilof River[1]	6/10-8/03	1,813	Percent		0.8	30.6	54.4		0.2	9.3	4.7		100.0
			Numbers		1,442	55,153	98,050		361	16,762	8,471		180,239
			St. Error		377	1,951	2,109		189	1,230	896		
Crescent River[1]	7/01-7/31	711	Percent			12.9	79.2	0.1		0.8	7.0		100.0
			Numbers			7,605	46,694	59		472	4,127		58,957
			St. Error			742	898	70		197	565		
Fish Creek[2]	7/14-8/18	504	Percent		7.0	23.9	65.2			1.9	2.0		100.0
			Numbers		1,972	6,731	18,363			535	563		28,164
			St. Error		320	536	598			171	176		
Cottonwood Creek[2]	7/15-9/06	440	Percent		5.9	79.8	4.1		2.0	7.5	0.7		100.0
			Numbers		1,083	14,650	753		367	1,377	128		18,358
			St. Error		206	352	174		123	231	73		
Packers Creek[3]	6/10-8/29	341	Percent		0.3	37.0	16.4		6.7	29.0	10.6		100.0
			Numbers		47	5,856	2,595		1,060	4,590	1,678		15,826
			St. Error		47	414	318		215	389	264		
Big River[3]	6/13-6/25	567	Percent	2.1	4.2	17.3	39.0		0.7	21.3	15.0	0.3	100.0
			St. Error	0.6	0.8	1.6	2.0		0.4	1.7	1.5	0.4	
	6/26-8/01	400	Percent	0.8	13.2	14.0	13.0		4.2	47.8	7.0	0	100.0
			St. Error	0.4	1.7	1.7	1.7		1.0	2.5	1.3		
	Total	967	Percent	1.5	8.0	15.9	28.2		2.2	32.3	11.7	0.2	100.0
			St. Error	.7	1.9	2.3	2.6		1.1	3.0	2.0	0.3	

[1] Source of age composition, King and Tarbox 1983. The Susitna River escapement figure represents the high point estimate of the estimated range of 215,856 - 265,332 sockeye salmon. The high point estimate was derived from side scan sonar and mark/recapture estimates from Susitna Hydroelectric Project studies.

[2] Source of age composition Chlupach 1983.

[3] Source of age composition Cook Inlet Aquaculture Association 1982a and 1982b.

Classification Models

The scale pattern variables which were the best for distinguishing among age 1.3 fish from Susitna, Kenai, Kasilof, and Crescent Rivers and Fish Creek fish were the number of circuli and width of the freshwater growth zone (NC1, ID1). Freshwater growth was greatest for fish from Fish Creek, almost twice as large as the freshwater growth in any of the other four groups (Table 6). Kenai River fish had the smallest growth in freshwater of any of the groups. Freshwater growth of Crescent River fish was similar to that of Kenai River fish. Scales from Susitna and Kasilof River fish displayed freshwater growth which was intermediate to Kenai River and Fish Creek fish. Other scale variables which proved to be helpful in distinguishing different combinations of groups included FOUR1, NC2, and ID3.

Frequency distributions of freshwater widths (ID1) for Susitna River and Kasilof River fish were very similar (Figure 3). Overall jackknifed classification accuracy of the five-way model (Susitna, Kenai, Kasilof, Crescent, Fish) was 67.6% (Table 7). The percentage of Fish Creek fish correctly classified in the five-way model was very high (99.0%), but the accuracy for Susitna River fish was exceedingly low (39.0%). The percentage (35.0%) of Susitna River fish misclassified as Kasilof River fish was almost as large as those correctly classified. Kenai River fish were classified fairly accurately (73.0%) and were most often misclassified as Crescent River fish (21.0%). Conversely, Crescent River fish, which had a classification accuracy of 66.0%, were most often misclassified as Kenai River fish (25.0%).

Because Susitna River fish could not be accurately separated from Kasilof River fish, we pooled Susitna and Kasilof Rivers samples and built a four-way model. Overall jackknifed classification accuracy of the four-way model was 81.0% (Table 7). The classification accuracy for Susitna-Kasilof Rivers pooled was 84%. The classification accuracy for Susitna-Kasilof Rivers pooled was 84%. Percentages of Fish Creek, Kenai River, and Crescent River fish correctly classified by the four-way model was almost identical to the five-way model (99.0%, 74.9%, and 66.7%, respectively).

When a catch sample was classified and the estimated contribution of a run was less than or equal to zero, a new model excluding that run was constructed. Overall classification accuracies for three-way models ranged from 74.8% to 93.3% and the overall accuracies of the two-way models ranged from 83.3% to 91.2% (Table 7).

Catch Allocation Using Scale Pattern Analysis

Point estimates and confidence intervals of fish aged 1.3 estimated by analysis of scale patterns show temporal and spatial trends in the run composition (Table 8). Catches of age 1.3 fish from all fisheries, except Northern District and Central District west-side set nets, were comprised of increasing proportions of Kenai River fish, and conversely decreasing proportions of Suskas River fish, through time. The proportions of Crescent River fish in catches of age 1.3 fish made by the Central District west-side set nets increased while proportions of Suskas fish decreased through time. The proportions of Suskas fish in the catches made in the Northern District were high throughout the season.

Table 6. Mean ($\bar{X}$) and standard deviation (s) of scale variables used to construct linear discriminant functions in 1982.

	Susitna		Kenai		Kasilof		Crescent		Fish		Susitna-Kasilof Pooled	
Variable	$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s
TWO1	44.53	6.04	39.46	5.07	46.51	4.88	40.12	5.56	43.73	4.73	45.33	5.53
FOUR1	68.62	9.52	57.36	6.79	72.69	6.42	58.11	7.73	68.16	6.67	70.54	8.20
MIN1	6.73	1.66	5.90	1.40	6.53	1.48	5.69	1.37	6.01	1.18	6.54	1.61
MAX1	31.18	4.57	28.36	4.03	32.40	4.03	28.79	4.36	30.54	3.70	31.67	4.30
NC1	10.37	2.54	7.75	1.38	10.54	1.30	8.39	1.83	22.35	2.44	10.53	2.04
ID1	130.56	31.40	87.08	15.25	136.10	16.08	92.57	16.20	258.33	30.09	133.44	24.68
NC2	5.81	2.25	9.05	1.83	5.53	1.91	8.07	1.87	2.79	1.08	5.72	2.05
ID2	69.23	28.07	100.18	22.22	63.43	22.41	97.50	23.11	28.17	11.54	66.86	25.30
NC3	21.95	2.77	22.21	2.45	22.40	2.57	21.68	2.55	25.06	2.16	22.27	2.58
ID3	349.36	42.55	364.79	43.33	360.87	38.62	346.35	39.69	403.24	34.67	355.51	39.97
Sample Size	300		300		300		300		300		300	

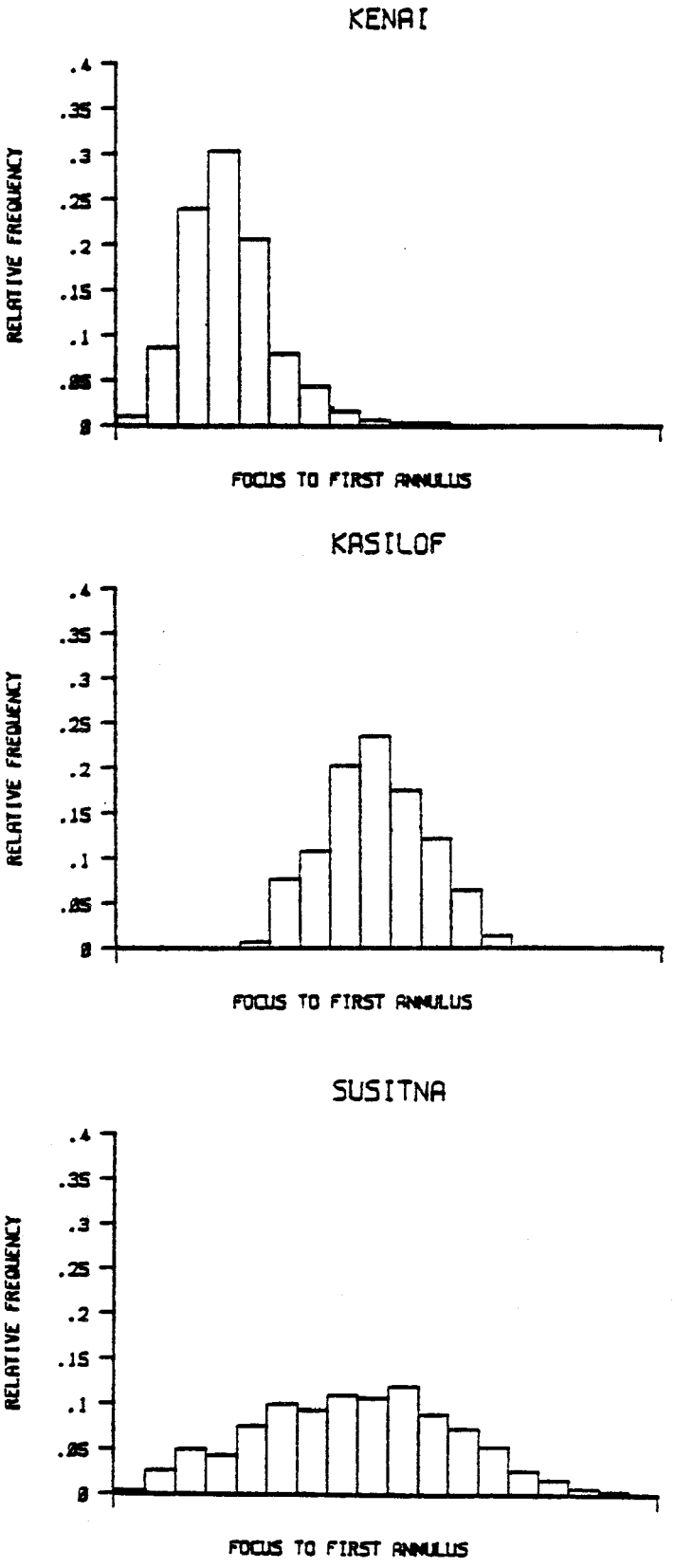

Figure 3. Radii lengths of the first zone of freshwater growth measured from scales taken from escapements of age 1.3 sockeye salmon in Kenai, Kasilof, and Susitna Rivers.

Table 7. Classification matrices from discriminant analyses of age 1.3 sockeye salmon scales from the Susitna, Kenai, Kasilof, Crescent Rivers, and Fish Creek, Upper Cook Inlet, 1982.

Actual Group Of Origin	Sample Size	Classified Group of Origin				
		Susitna	Kenai	Kasilof	Crescent	Fish
Susitna	300	.390	.107	.350	.143	.010
Kenai	300	.030	.730	.030	.210	.000
Kasilof	300	.343	.020	.610	.027	.000
Crescent	300	.047	.250	.043	.660	.000
Fish	300	.003	.000	.007	.000	.990

Overall correctly classified = .676

Actual Group Of Origin	Sample Size	Classified Group of Origin			
		Susitna-Kasilof Pooled	Kenai	Crescent	Fish
Susitna-Kasilof Pooled	300	.843	.057	.097	.003
Kenai	300	.054	.749	.197	.000
Crescent	300	.083	.250	.667	.000
Fish	300	.010	.000	.000	.990

Overall correctly classified = .810

Actual Group Of Origin	Sample Size	Classified Group of Origin			
		Susitna	Kenai	Crescent	Fish
Susitna	300	.743	.110	.137	.010
Kenai	300	.054	.722	.224	.000
Crescent	300	.093	.253	.654	.000
Fish	300	.003	.003	.000	.994

Overall correctly classified = .778

-Continued-

Table 7. Classification matrices from discriminant analyses of age 1.3 sockeye salmon scales from the Susitna, Kenai, Kasilof, Crescent Rivers, and Fish Creek, Upper Cook Inlet, 1982 (continued).

Actual Group Of Origin	Sample Size	Classified Group of Origin		
		Susitna-Kasilof Pooled	Kenai	Crescent
Susitna-Kasilof Pooled	300	.837	.067	.096
Kenai	300	.050	.746	.204
Crescent	300	.067	.273	.660

Overall correctly classified = .748

Actual Group Of Origin	Sample Size	Classified Group of Origin		
		Susitna-Kasilof Pooled	Kenai	Fish
Susitna-Kasilof Pooled	300	.877	.120	.003
Kenai	300	.067	.933	.000
Fish	300	.007	.003	.990

Overall correctly classified = .933

Actual Group Of Origin	Sample Size	Classified Group of Origin		
		Susitna	Kenai	Fish
Susitna	300	.787	.203	.010
Kenai	300	.063	.937	.000
Fish	300	.007	.003	.990

Overall correctly classified = .904

-Continued-

Table 7. Classification matrices from discriminant analyses of age 1.3 sockeye salmon scales from the Susitna, Kenai, Kasilof, Crescent Rivers, and Fish Creek, Upper Cook Inlet, 1982 (continued).

Actual Group Of Origin	Sample Size	Classified Group of Origin		
		Susitna	Crescent	Fish
Susitna	300	.773	.217	.010
Crescent	300	.100	.900	.000
Fish	300	.007	.000	.993

Overall correctly classified = .887

Actual Group Of Origin	Sample Size	Classified Group of Origin	
		Susitna-Kasilof Pooled	Kenai
Susitna-Kasilof Pooled	300	.883	.117
Kenai	300	.060	.940

Overall correctly classified = .912

Actual Group Of Origin	Sample Size	Classified Group of Origin	
		Susitna-Kasilof Pooled	Crescent
Susitna-Kasilof Pooled	300	.843	.159
Crescent	300	.083	.917

Overall correctly classified = .880

Actual Group Of Origin	Sample Size	Classified Group of Origin	
		Susitna	Crescent
Susitna	300	.750	.250
Crescent	300	.083	.917

Overall correctly classified = .833

Table 8. Run composition estimates and 90% confidence intervals calculated from scale pattern analyses of age 1.3 sockeye salmon by fishery and date for Upper Cook Inlet, 1982[1].

Fishery	Date	Susitna-Kasilof Pooled		Kenai		Crescent		Fish	
		Proportion	90% C.I.	Proportion	90% C.I.	Proportion	90% C.I.	Proportion	90% C.I.
Central District Drift	6/25	.905	(.790, 1.00)	.088	(0, .200)	Trace[2]		.007	(0, .030)
	6/28	.727	(.617, .837)	Trace		.273	(.163, .383)	Trace	
	7/02	.810	(.651, .970)	.149	(0, .311)	.023	(0, .195)	.018	(0, .055)
	7/05	.652	(.486, .817)	.276	(.085, .467)	.064	(0, .254)	.008	(0, .034)
	7/09	.573	(.437, .709)	.409	(.274, .543)	Trace		.018	(0, .049)
	7/12	.443	(.286, .600)	.330	(.110, .550)	.227	(.001, .453)	Trace	
	7/16	.366	(.209, .522)	.574	(.346, .804)	.051	(0, .261)	.009	(0, .035)
	7/19	.403	(.271, .535)	.548	(.416, .681)	Trace		.049	(.002, .097)
	7/20	.298	(.149, .447)	.639	(.406, .873)	.054	(0, .269)	.009	(0, .034)
	7/21	.258	(.166, .351)	.742	(.649, .834)	Trace		Trace	
	7/22	.141	(.034, .248)	.839	(.729, .948)			.020	(0, .050)
	7/23	.321	(.194, .448)	.619	(.489, .749)	Trace		.060	(.008, .112)
	7/24	.123	(.003, .242)	.739	(.496, .983)	.098	(0, .331)	.040	(0, .090)
	7/25	.304	(.208, .399)	.696	(.601, .792)	Trace		Trace	
	7/26	.373	(.216, .529)	.562	(.335, .792)	.065	(0, .277)	Trace	
	7/27-7/28	.067	(0, .160)	.913	(.816, 1.00)			.020	(0, .050)
	7/29-7/30	.130	(.025, .234)	.840	(.731, .949)			.030	(0, .067)

-Continued-

Table 8. Run composition estimates and 90% confidence intervals calculated from scale pattern analyses of age 1.3 sockeye salmon by fishery and date for Upper Cook Inlet, 1982[1] (continued).

Fishery	Date	Susitna-Kasilof Pooled		Kenai		Crescent		Fish	
		Proportion	90% C.I.	Proportion	90% C.I.	Proportion	90% C.I.	Proportion	90% C.I.
Salamatof Beach Set Net	7/16	.283	(.176, .391)	.717	(.609, .824)				Trace
	7/19	.109	(.034, .185)	.891	(.815, .966)				Trace
	7/20-7/22	.061	(0, .128)	.939	(.872, 1.00)				Trace
	7/24	.036	(0, .099)	.964	(.901, 1.00)				Trace
	7/26	.012	(0, .070)	.988	(.930, 1.00)				Trace
	7/28	.054	(0, .143)	.926	(.833, 1.00)			.020	(0, .050)
Kalifonsky Beach Set Net	6/25-7/09	.935	(.852, 1.00)	.065	0, .148)				Trace
	7/12-7/16	.437	(.302, .571)	.554	(.421, .689)			.009	(0, .030)
	7/19-7/20	.449	(.348, .551)	.551	(.449, .652)				Trace
	7/21	.158	(.076, .240)	.842	(.760, .924)				Trace
	7/23	.291	(.197, .386)	.709	(.614, .803)				Trace
	7/25	.219	(.130, .307)	.781	(.693, .870)				Trace
	7/27	.231	(.141, .320)	.769	(.680, .859)				Trace

-Continued-

Table 8. Run composition estimates and 90% confidence intervals calculated from scale pattern analyses of age 1.3 sockeye salmon by fishery and date for Upper Cook Inlet, 1982[1] (continued).

Fishery	Date	Susitna-Kasilof Pooled Proportion	90% C.I.	Kenai Proportion	90% C.I.	Crescent Proportion	90% C.I.	Fish Proportion	90% C.I.
Cohoe/Ninilchik Beach Set Net	6/25-6/28	1.00	(.935, 1.00)		Trace				Trace
	7/05	.930	(.818, 1.00)	.063	(0, .172)			.007	(0, .030)
	7/09	.759	(.630, .888)	.213	(.088, .339)			.028	(0, .065)
	7/12	.700	(.599, .800)	.300	(.200, .401)				Trace
	7/16	.640	(.475, .805)	.347	(.183, .510)			.013	(0, .047)
	7/18	.482	(.346, .617)	.479	(.344, .614)			.039	(0, .082)
	7/21-7/22	.276	(.152, .400)	.715	(.590, .839)			.009	(0, .031)
	7/23	.332	(.232, .432)	.668	(.568, .768)				Trace
	7/25	.306	(.153, .459)	.680	(.527, .834)			.014	(0, .046)
	7/27-7/30	.194	(.108, .280)	.806	(.720, .892)				
Kalgin Island Set Net	7/02	.760	(.632, .889)	.192	(.069, .314)		Trace	.048	(0, .096)
	7/09-7/16	.786	(.661, .910)	.138	(.024, .253)		Trace	.076	(.018, .133)
	7/21-7/23	.527	(.362, .691)	.398	(.190, .606)	.046	(0, .239)	.029	(0, .072)
	7/26-7/30	.909	(.819, .999)	.091	(.001, .181)				Trace

-Continued-

Table 8. Run composition estimates and 90% confidence intervals calculated from scale pattern analyses of age 1.3 sockeye salmon by fishery and date for Upper Cook Inlet, 1982[1] (continued).

Fishery	Date	Susitna-Kasilof Pooled Proportion	Susitna-Kasilof Pooled 90% C.I.	Kenai Proportion	Kenai 90% C.I.	Crescent Proportion	Crescent 90% C.I.	Fish Proportion	Fish 90% C.I.
Cohoe/Ninilchik Beach Set Net	6/25-6/28	1.00	(.935, 1.00)		Trace				Trace
	7/05	.930	(.818, 1.00)	.063	(0, .172)			.007	(0, .030)
	7/09	.759	(.630, .888)	.213	(.088, .339)			.028	(0, .065)
	7/12	.700	(.599, .800)	.300	(.200, .401)				Trace
	7/16	.640	(.475, .805)	.347	(.183, .510)			.013	(0, .047)
	7/18	.482	(.346, .617)	.479	(.344, .614)			.039	(0, .082)
	7/21-7/22	.276	(.152, .400)	.715	(.590, .839)			.009	(0, .031)
	7/23	.332	(.232, .432)	.668	(.568, .768)				Trace
	7/25	.306	(.153, .459)	.680	(.527, .834)			.014	(0, .046)
	7/27-7/30	.194	(.108, .280)	.806	(.720, .892)				
Kalgin Island Set Net	7/02	.760	(.632, .889)	.192	(.069, .314)		Trace	.048	(0, .096)
	7/09-7/16	.786	(.661, .910)	.138	(.024, .253)		Trace	.076	(.018, .133)
	7/21-7/23	.527	(.362, .691)	.398	(.190, .606)	.046	(0, .239)	.029	(0, .072)
	7/26-7/30	.909	(.819, .999)	.091	(.001, .181)				Trace

-Continued-

Table 8. Run composition estimates and 90% confidence intervals calculated from scale pattern analyses of age 1.3 sockeye salmon by fishery and date for Upper Cook Inlet, 1982[1] (continued).

Fishery	Date	Susitna Proportion	Susitna 90% C.I.	Kenai Proportion	Kenai 90% C.I.	Crescent Proportion	Crescent 90% C.I.	Fish Proportion	Fish 90% C.I.
Central District West-side Set Net	6/18-6/28	.549	(.421, .678)			.451	(.322, .579)		Trace
	7/02-7/09	.250	(.138, .362)			.750	(.638, .862)		Trace
	7/16	.316	(.163, .469)			.657	(.504, .810)	.027	(0, .064)
	7/26	.280	(.113, .447)			.710	(.544, .876)	.010	(0, .037)
Northern Dist. East-side Set Net	6/25-7/12	.659	(.484, .833)	.081	(0, .222)			.260	(.146, .374)
	7/19	.679	(.527, .831)	.197	(.056, .337)			.124	(.050, .198)
	7/23-7/30	.400	(.260, .541)	.341	(.205, .477)			.259	(.163, .354)
Northern Dist. West-side Set Net	6/25-7/12	.687	(.524, .850)		Trace	.301	(.140, .461)	.012	(0, .043)
	7/16	.596	(.401, .791)	.231	(.012, .450)	.149	(0, .384)	.024	(0, .068)
	7/19	.761	(.563, .958)	.205	(0, .415)	.032	(0, .248)	.002	(0, .030)
	7/23-7/26	.768	(.572, .964)	.087	(0, .272)	.083	(0, .297)	.062	(0, .127)

[1] The Central District drift net and Kalgin Island set net catches were classified with a model which included Susitna/Kasilof Rivers pooled, Kenai River, Crescent River, and Fish Creek. Catch samples from the east-side beaches (Salamatof, Kalifonsky, Cohoe/Ninilchik) were classified with a three-way stock identification model which included Susitna/Kasilof pooled, Kenai River, and Fish Creek. The Central District west-side set net catches were classified with a model which included Susitna River, Crescent River, and Fish Creek. Northern District east-side set net catches were classified with a model which included Susitna River, Kenai River, Crescent River, and Fish Creek.

[2] Trace was recorded for systems that were originally included in the model used to classify the catch and their point estimates were less than zero, but the upper bounds of the 90% confidence intervals were positive.

For the 1.3 age group, Upper Cook Inlet fisheries harvested 1,534,046 fish bound for the Kenai River, 919,946 fish returning to the Suskas River, 123,385 fish destined for Crescent River, and 40,312 fish bound for Fish Creek (Table 9). Kenai River fish accounted for the majority of age 1.3 fish caught in the drift fishery (54.7%), on Salamatof Beach (93%), on Kalifonsky Beach (69.2%), and on Cohoe/Ninilchik Beach (51.7%). Suskas fish predominated in catches of age 1.3 fish made by set nets on the Northern District east-side (60.2%), on the Northern District west-side (72.2%), and on Kalgin Island (70.7%). The majority (65.9%) of age 1.3 fish harvested by set nets along the west-side of the Central District were bound for the Crescent River.

Catch Allocation to Susitna River

Comparisons of peaks in the CPUE of Susitna River fish by the drift fishery with escapement counts indicate an approximate four-day travel time for Susitna River fish to go from the middle of the Central District to the counting site at Susitna Station. The average catchability coefficient in 1981 of Susitna River age 1.3 fish by the drift fishery was .00153 and ranged from 0.00068 to 0.00308. The estimated survival rate of Susitna River age 1.3 fish from the drift fishery in 1981 was 0.76. Of the 255,777 Suskas fish aged 1.3 harvested by set nets in 1982, an estimated 104,421 fish were bound for the Susitna River and 151,356 fish were bound for the Kasilof River (Table 10). The drift fishery harvested 664,171 Suskas fish in 1982. Based on migratory timing and catchability coefficients developed from 1981 data, 82,805 Suskas fish harvested by the drift fleet were bound for the Susitna River, consequently 581,366 fish were allocated to the Kasilof River (Table 10). We are currently unable to calculate a variance around these estimates. Additional years of data must be collected before we can assess the accuracy of the Susitna and Kasilof River catch estimates.

Catch Allocation of All Ages of Sockeye Salmon

The 1982 Upper Cook Inlet harvest of sockeye salmon of all ages was comprised of 52.7% Kenai River fish, followed by 32.7% Kasilof River fish, 8.5% Susitna River fish, 4.5% Crescent River fish, and 1.6% Fish Creek fish (Table 11). The majority of sockeye salmon harvested for the 1.3 (58.6%), 1.4 (79.2%), and 2.3 (39.6%) age classes were of Kenai River origin. Fish returning to Kasilof River accounted for most of the harvested fish aged 1.2 (62.3%), 2.2 (60.6%), and 2.4 (71.1%). Catches of the minor age groups were comprised predominately of Susitna River fish; 36.1% of the fish aged 1.1, 83.7% of the fish aged 2.1, and 76.7% of the fish aged 3.1. Run compositions through time of the specific fisheries are reported in Tables D-1 - D-8.

Of the fish harvested, 42.4% of the Susitna River fish, 61.4% of the Kenai River fish, 72.5% of the Kasilof River fish, 84.9% of the Crescent River fish, and 65.7% of the Fish Creek fish were taken by the drift fishery (Table 12). Fisheries other than the drift fleet which caught appreciable portions of the total Susitna River catch included: Northern District set nets (30.1%), Salamatof Beach set nets (12.7%), and Kalifonsky Beach set nets (8.4%). Of the Kenai River fish harvested, the drift catch was followed in magnitude by catches made by set nets on Salamatof Beach (20.8%), Kalifonsky Beach (8.7%), and Cohoe/Ninilchik Beach (7.5%). Fisheries in addition to the drift fleet which accounted for large portions of the Kasilof River catch were: Cohoe/Ninilchik Beach and Kalifonsky

Table 9. Estimated numbers of sockeye salmon aged 1.3 by river harvested in Upper Cook Inlet, 1982.

Fishery	System	Estimated Proportion	Estimated Numbers	Standard Error of Estimate	Coefficient of Variation
North District East-side Set	Suskas Pooled	0.602	21,541	1,979	0.09
	Kenai	0.235	8,410	1,741	0.21
	Fish	0.163	5,845	943	0.16
	Total	1.000	35,796		
North District West-side Set	Suskas Pooled	0.722	36,075	2,434	0.07
	Kenai	0.169	8,427	2,371	0.28
	Crescent	0.081	4,041	2,547	0.63
	Fish	0.028	1,409	547	0.39
	Total	1.000	49,952		
Central District Drift	Suskas Pooled	0.377	664,173	40,900	0.06
	Kenai	0.547	963,649	57,309	0.06
	Crescent	0.060	105,073	51,178	0.49
	Fish	0.016	28,194	7,433	0.26
	Total	1.000	1,761,089		
Central District West-side Set	Suskas Pooled	0.332	6,986	803	0.11
	Crescent	0.659	13,899	827	0.06
	Fish	0.009	191	109	0.57
	Total	1.000	21,076		
Kalgin Island Set	Suskas Pooled	0.707	15,715	842	0.05
	Kenai	0.239	5,307	833	0.16
	Crescent	0.017	372	625	1.68
	Fish	0.037	813	221	0.27
	Total	1.000	22,207		
Salamatof Beach Set	Suskas Pooled	0.067	22,651	6,284	0.28
	Kenai	0.930	315,762	7,049	0.02
	Fish	0.003	955	667	0.70
	Total	1.000	339,368		
Kalifonsky Beach Set	Suskas Pooled	0.307	55,991	4,269	0.08
	Kenai	0.692	125,945	4,686	0.04
	Fish	0.001	188	205	1.09
	Total	1.000	182,124		
Cohoe/Ninilchik Beach Set	Suskas Pooled	0.470	96,817	4,742	0.05
	Kenai	0.517	106,546	5,049	0.05
	Fish	0.013	2,714	971	0.36
	Total	1.000	206,077		
Total	Suskas Pooled	0.352	919,946	42,002	0.05
	Kenai	0.586	1,534,046	58,231	0.04
	Crescent	0.047	123,385	51,252	0.42
	Fish	0.015	40,312	7,611	0.19
	Total	1.000	2,617,689		

Table 10. Allocation of the harvest of Suskas sockeye salmon aged 1.3 to the Susitna and Kasilof Rivers, Upper Cook Inlet, 1982.

Fishery	Suskas River	Susitna River	Kasilof River
Central District Drift	664,171	82,805	581,366
Set Net Fisheries			
Northern District	57,616	57,616	0
Central District West	6,987	6,987	0
Salamatof Beach	22,651	22,651	0
Kalifonsky Beach	55,991	13,405	42,586
Cohoe/Ninilchik Beach	96,819	0	96,819
Kalgin Island	15,713	3,762	11,951
Set Net Subtotal	255,777	104,421	151,356
Total	919,948	187,226	732,722

Table 11. Run composition estimates of the 1982 Upper Cook Inlet sockeye salmon harvest by age group and fishery.

Fishery	System	1.1 %	1.1 Numbers	1.2 %	1.2 Numbers	2.1 %	2.1 Numbers	1.3 %	1.3 Numbers	2.2 %	2.2 Numbers
Northern	Susitna	30.6	146	74.1	6,712	100.0	39	60.2	21,541	72.7	1,862
East-side	Kenai	0.6	3	5.6	507	0	0	23.5	8,409	19.3	494
Set Net	Fish	68.8	328	20.3	1,839	0	0	16.3	5,846	8.0	206
	Total	100.0	477	100.0	9,058	100.0	39	100.0	35,796	100.0	2,562
Northern	Susitna	77.9	447	88.5	8,885	100.0	83	72.2	36,075	81.4	1,582
West-side	Kenai	0.5	3	3.4	339	0	0	16.9	8,427	14.1	273
Set Net	Crescent	0	0	4.9	494	0	0	8.1	4,041	3.2	63
	Fish	21.6	124	3.2	324	0	0	2.8	1,409	1.3	25
	Total	100.0	574	100.0	10,042	100.0	83	100.0	49,952	100.0	1,943
Central	Susitna	25.0	133	9.2	12,659	100.0	72	4.7	82,805	4.6	2,095
District	Kenai	8.8	47	16.2	22,359	0	0	54.7	963,648	28.7	13,078
Drift Net	Kasilof	17.9	95	68.0	93,742	Trace	Trace	33.0	581,366	65.6	29,849
	Crescent	0	0	4.4	6,051	0	0	6.0	105,073	0.7	315
	Fish	48.3	257	2.2	3,019	0	0	1.6	28,197	0.4	184
	Total	100.0	532	100.0	137,830	100.0	72	100.0	1,761,089	100.0	45,521
Central	Susitna	100.0	23	50.2	1,418	100.0	30	33.2	6,987	77.1	557
West-side	Crescent	0	0	48.5	1,370	0	0	65.9	13,899	22.6	163
Set Net	Fish	Trace	Trace	1.3	35	0	0	0.9	190	0.3	2
	Total	100.0	23	100.0	2,823	100.0	30	100.0	21,076	100.0	722
Kalgin Island	Susitna	30.5	12	16.9	897	41.8	4	16.9	3,762	8.8	509
Set Net	Kenai	2.8	1	3.3	177	0	0	23.9	5,308	5.6	326
	Kasilof	37.0	15	76.9	4,070	58.2	6	53.8	11,951	85.2	4,968
	Crescent	0	0	0.6	31	0	0	1.7	372	0.1	7
	Fish	29.7	12	2.3	121	0	0	3.7	814	0.3	19
	Total	100.0	40	100.0	5,296	100.0	10	100.0	22,207	100.0	5,829
Salamatof	Susitna	64.9	238	29.6	4,349	100.0	19	6.7	22,651	11.9	591
Beach	Kenai	11.4	42	68.1	10,012	0	0	93.0	315,762	87.5	4,349
Set Net	Fish	23.7	87	2.4	349	0	0	0.3	955	0.6	28
	Total	100.0	367	100.0	14,710	100.0	19	100.0	339,368	100.0	4,968
Kalifonsky	Susitna	38.7	36	13.4	5,838	41.6	35	7.4	13,405	5.8	956
Beach	Kenai	14.0	13	25.5	11,061	0	0	69.1	125,945	37.6	6,221
Set Net	Kasilof	47.3	44	61.0	26,522	58.4	49	23.4	42,586	56.6	9,375
	Fish	Trace	Trace	0.1	40	0	0	0.1	188	Trace	2
	Total	100.0	93	100.0	43,461	100.0	84	100.0	182,124	100.0	16,554
Cohoe/	Kenai	7.0	53	15.5	10,962	0	0	51.7	106,547	25.1	5,530
Ninilchik	Kasilof	74.6	567	83.2	58,901	0	0	47.0	96,817	74.7	16,441
Beach	Fish	18.4	140	1.3	964	0	0	1.3	2,713	0.2	46
Set Net	Total	100.0	760	100.0	70,827	0	0	100.0	206,077	100.0	22,017
Total	Susitna	36.1	1,035	13.9	40,758	83.7	282	7.2	187,226	8.1	8,152
	Kenai	5.6	162	18.8	55,417	0	0	58.6	1,534,046	30.2	30,271
	Kasilof	25.2	721	62.3	183,235	16.3	55	28.0	732,720	60.6	60,633
	Crescent	0	0	2.7	7,946	0	0	4.7	123,385	0.6	548
	Fish	33.1	948	2.3	6,691	0	0	1.5	40,312	0.5	512
	Total	100.0	2,866	100.0	294,047	100.0	337	100.0	2,617,689	100.0	100,116

-Continued-

Table 11. Run composition estimates of the 1982 Upper Cook Inlet sockeye salmon harvest by age group and fishery (continued).

Fishery	System	3.1 %	3.1 Numbers	1.4 %	1.4 Numbers	2.3 %	2.3 Numbers	2.4 %	2.4 Numbers	Total %	Total Numbers
Northern	Susitna	0	0	0	0	85.7	2,732	0	0	64.6	33,032
East-side	Kenai	0	0	0	0	8.3	264	0	0	18.9	9,677
Set Net	Fish	0	0	0	0	6.0	192	0	0	16.5	8,411
	Total	0	0	0	0	100.0	3,188	0	0	100.0	51,120
Northern	Susitna	76.3	79	0	0	87.5	3,508	0	0	75.7	50,659
West-side	Kenai	20.5	21	55.8	130	4.9	196	0	0	14.0	9,389
Set Net	Crescent	3.2	3	44.2	103	6.5	263	0	0	7.4	4,967
	Fish	0	0	0	0	1.1	43	0	0	2.9	1,925
	Total	100.0	103	100.0	233	100.0	4,010	0	0	100.0	66,940
Central	Susitna	0	0	0	0	12.9	19,901	0	0	5.6	117,665
District	Kenai	0	0	79.9	2,882	34.4	53,273	0	0	50.2	1,055,287
Drift Net	Kasilof	0	0	0	0	44.0	68,088	0	0	36.7	773,140
	Crescent	0	0	20.1	724	7.6	11,768	0	0	5.9	123,931
	Fish	0	0	0	0	1.1	1,749	0	0	1.6	33,406
	Total	0	0	100.0	3,606	100.0	154,779	0	0	100.0	2,103,429
Central	Susitna	0	0	0	0	57.6	1,512	0	0	38.5	10,527
West-side	Crescent	0	0	100.0	7	42.2	1,108	0	0	60.6	16,547
Set Net	Fish	0	0	0	0	0.2	6	0	0	0.9	233
	Total	0	0	100.0	7	100.0	2,626	0	0	100.0	27,307
Kalgin Island	Susitna	0	0	0	0	35.0	2,183	0	0	18.6	7,367
Set Net	Kenai	0	0	100.0	20	9.5	595	0	0	16.2	6,427
	Kasilof	0	0	0	0	53.0	3,307	0	0	61.3	24,317
	Crescent	0	0	Trace	Trace	1.4	86	0	0	1.3	496
	Fish	0	0	0	0	1.1	72	0	0	2.6	1,038
	Total	0	0	100.0	20	100.0	6,243	0	0	100.0	39,645
Salamatof	Susitna	0	0	0	0	21.0	7,443	0	0	8.9	35,291
Beach	Kenai	0	0	100.0	51	78.7	27,895	0	0	90.7	358,111
Set Net	Fish	0	0	0	0	0.3	116	0	0	0.4	1,535
	Total	0	0	100.0	51	100.0	35,454	0	0	100.0	394,937
Kalifonsky	Susitna	0	0	0	0	20.8	2,948	22.4	2	9.0	23,220
Beach	Kenai	0	0	100.0	144	47.7	6,774	6.5	1	58.5	150,159
Set Net	Kasilof	0	0	0	0	31.4	4,458	71.1	6	32.4	83,040
	Fish	0	0	0	0	0.1	9	Trace	Trace	0.1	239
	Total	0	0	100.0	144	100.0	14,189	100.0	9	100.0	256,658
Cohoe/	Kenai	0	0	Trace	Trace	31.8	6,395	0	0	40.5	129,487
Ninilchik	Kasilof	0	0	100.0	16	67.4	13,577	0	0	58.3	186,319
Beach	Fish	0	0	0	0	0.8	159	0	0	1.2	4,022
Set Net	Total	0	0	100.0	16	100.0	20,131	0	0	100.0	319,828
Total	Susitna	76.7	79	0	0	16.7	40,227	22.4	2	8.5	277,761
	Kenai	20.4	21	79.2	3,227	39.6	95,392	6.5	1	52.7	1,718,537
	Kasilof	0	0	0.4	16	37.2	89,430	71.1	6	32.7	1,066,816
	Crescent	2.9	3	20.4	834	5.5	13,225	0	0	4.5	145,941
	Fish	0	0	0	0	1.0	2,346	Trace	Trace	1.6	50,809
	Total	100.0	103	100.0	4,077	100.0	240,620	100.0	9	100.0	3,259,864

Table 12. Catch of sockeye salmon by run and by fishery, Upper Cook Inlet, 1982.

Run		FISHERY								
		Northern East-side Set Net	Northern West-side Set Net	Central District Drift Net	Central West-side Set Net	Kalgin Island Set Net	Salamatof Beach Set Net	Kalifonsky Beach Set Net	Cohoe/Ninilchik Beach Set Net	Total
Susitna	Numbers	33,032	50,659	117,665	10,527	7,367	35,291	23,220	0	277,761
	Percent	11.9	18.2	42.4	3.8	2.6	12.7	8.4	0	100.0
Kenai	Numbers	9,677	9,389	1,055,287	0	6,427	358,111	150,159	129,487	1,718,537
	Percent	0.6	0.6	61.4	0	0.4	20.8	8.7	7.5	100.0
Kasilof	Numbers	0	0	773,140	0	24,317	0	83,040	186,319	1,066,816
	Percent	0	0	72.5	0	2.3	0	7.8	17.4	100.0
Crescent	Numbers	0	4,967	123,931	16,547	496	0	0	0	145,941
	Percent	0	3.4	84.9	11.4	0.3	0	0	0	100.0
Fish	Numbers	8,411	1,925	33,406	233	1,038	1,535	239	4,022	50,809
	Percent	16.6	3.8	65.7	0.5	2.0	3.0	0.5	7.9	100.0

Beach set nets (17.4% and 7.8%, respectively). Major harvesters of Fish Creek fish included set nets in the Northern District which caught 20.4% of the total Fish Creek catch. Set nets along the west-side of the Central District (11.4% of the total Crescent catch) were the only other fishery besides the drift fleet to take appreciable numbers of Crescent River fish.

Returns by River System

In excess of 4.4 million sockeye salmon returned to Upper Cook Inlet in 1982 (Table 13). Approximately 2.3 million Kenai River fish returned to the inlet which was 53.0% of the total return. Kasilof River fish accounted for 28.4% of the return of sockeye salmon to Upper Cook Inlet, followed by Susitna River (12.3%), Crescent River (4.6%), and Fish Creek (1.8%).

DISCUSSION

The "Other" Systems

The allocation of the catch to the five major rivers is inflated because there are "other" systems which produce sockeye salmon and are not incorporated in the allocation. In the past, we assumed that the contribution of the other systems to the commercial harvest of sockeye salmon was minimal. However, the expansion of escapement monitoring studies has shown that other systems in the inlet could potentially contribute significant numbers of sockeye salmon to the commercial catch. While the largest numbers of fish destined for the other systems are probably harvested in the Central District drift fishery, the other systems probably have the greatest impact for fisheries operating in the proximity of one of these systems. For example, Packers Creek probably contributes significantly to the harvest of age 1.2 and 2.2 fish made by Kalgin Island set nets. Cottonwood Creek most likely contributes at a higher rate to the catch of fish aged 1.2 made by Northern District east-side set nets. Big River probably contributes a larger proportion of the fish aged 1.3 harvested by set nets along the west-side of the Central District and Kalgin Island, and the McArthur-Chakachatna Rivers contribute at a higher rate to the set nets along the west-side of the Northern District.

We do not know how the classification models are assigning fish from the other systems. We do not know if the catch allocation to one river is inflated more than another, or if the biases from excluding the other systems are random throughout the allocation. It is probable that in past years, fish from the other systems were allocated at a higher rate to the Susitna River than to the other groups because scale patterns of Susitna River fish have consistently been the most variable and cover the greatest range of values. In 1982, the majority of fish caught from the other systems was probably allocated to the Suskas category. After the contribution of Susitna River sockeye salmon was removed from the Suskas catches with analysis of migratory timing and catchability, the contribution from the other systems would remain with that of Kasilof River.

Comparisons of Exploitation Rates

The rate of exploitation by the commercial fishery in 1982 was highest for Kasilof River fish (.849) and lowest for Susitna River fish (.511). The commer-

Table 13. Catch, escapement, and return of sockeye salmon by age group and run, Upper Cook Inlet, 1982.

		Commercial Catch					
River		1.2	1.3	2.2	2.3	Other	Total
Susitna	Numbers	40,758	187,226	8,152	40,227	1,398	277,761
	Percent	13.9	7.2	8.1	16.7	18.9	8.5
Kenai	Numbers	55,417	1,534,046	30,271	95,392	3,411	1,718,537
	Percent	18.8	58.6	30.2	39.6	46.2	52.7
Kasilof	Numbers	183,235	732,720	60,633	89,430	798	1,066,816
	Percent	62.3	28.0	60.6	37.2	10.8	32.7
Crescent	Numbers	7,946	123,385	548	13,225	837	145,941
	Percent	2.7	4.7	0.6	5.5	11.3	4.5
Fish	Numbers	6,691	40,312	512	2,346	948	50,809
	Percent	2.3	1.5	0.5	1.0	12.8	1.6
Total	Numbers	294,047	2,617,689	100,116	240,620	7,392	3,259,864
	Percent	100.0	100.0	100.0	100.0	100.0	100.0

		Escapement					
River		1.2	1.3	2.2	2.3	Other	Total
Susitna	Numbers	62,353	158,138	8,756	28,656	7,429	265,332
	Percent	37.2	18.3	19.7	44.2	60.6	23.0
Kenai	Numbers	35,887	542,072	17,919	22,958	995	619,831
	Percent	21.4	62.8	40.3	35.4	8.1	53.8
Kasilof	Numbers	55,153	98,050	16,762	8,471	1,803	180,239
	Percent	32.9	11.4	37.7	13.1	14.7	15.6
Crescent	Numbers	7,605	46,694	472	4,127	59	58,957
	Percent	4.5	5.4	1.1	6.4	0.5	5.1
Fish	Numbers	6,731	18,363	535	563	1,972	28,164
	Percent	4.0	2.1	1.2	0.9	16.1	2.5
Total	Numbers	167,729	863,317	44,444	64,775	12,258	1,152,523
		100.0	100.0	100.0	100.0	100.0	100.0

-Continued-

Table 13. Catch, escapement, and return of sockeye salmon by age group and run, Upper Cook Inlet, 1982 (continued).

		Sport and Personal-Use Catch (not counted in escapement)[1]					
River		1.2	1.3	2.2	2.3	Other	Total
Kenai	Numbers	679	10,243	339	433	12	11,706
	Percent	35.6	60.8	56.8	18.8	32.4	53.9
Kasilof	Numbers	1,226	6,614	258	1,873	25	9,996
	Percent	64.4	39.2	43.2	81.2	67.6	46.1
Total	Numbers	1,905	16,857	597	2,306	37	21,702
	Percent	100.0	100.0	100.0	100.0	100.0	100.0

		Return					
River		1.2	1.3	2.2	2.3	Other	Total
Susitna	Numbers	103,111	345,364	16,908	68,883	8,827	543,093
	Percent	22.2	9.9	11.6	22.4	44.8	12.3
Kenai	Numbers	91,983	2,086,361	48,529	118,783	4,418	2,350,074
	Percent	19.8	59.6	33.4	38.6	22.5	53.0
Kasilof	Numbers	239,614	837,384	77,653	99,774	2,626	1,257,051
	Percent	51.7	23.9	53.6	32.4	13.4	28.4
Crescent	Numbers	15,551	170,079	1,020	17,352	896	204,898
	Percent	3.4	4.9	0.7	5.6	4.5	4.6
Fish	Numbers	13,422	58,675	1,047	2,909	2,920	78,973
	Percent	2.9	1.7	0.7	1.0	14.8	1.8
Total	Numbers	463,681	3,497,863	145,157	307,701	19,687	4,434,089
	Percent	100.0	100.0	100.0	100.0	100.0	100.0

[1] Fish caught by the sport fishery in the Kenai River below the Soldotna bridge were fish returning to the Kenai River, but did not pass the sonar and were not counted in the escapement. Fish caught in the personal-use gill net fishery, dipnet fishery, and sport hook-and-line fishery were fish returning to Kasilof River, but did not pass the sonar and were not counted in the escapement. Refer to Table C-1 for a detailed breakdown.

cial exploitation rate was similar for Kenai River (.731) and Crescent River (.712) fish. While the estimate of high exploitation for Kasilof River fish compared to the low exploitation for Susitna River fish may be an indication that the catch allocation to Susitna River in 1982 is low, the greater exploitation rate for Kasilof River fish could be a result of their pattern of migration through the fishery. Based on the consistently prolonged migratory patterns of Kasilof River escapements and allocated catches, Bernard and Cross (in press) concluded that the entry pattern of Kasilof River fish is more prolonged than that of Susitna River fish, thus making them more susceptible to fishing. Exploitation rates developed from catch allocations based on analysis of scale patterns from 1978-1981 are consistently higher for the Kasilof River than for the Susitna River. Exploitation rates by year for the Kasilof River versus the Susitna River are: .80 vs .74 in 1978, .66 vs .58 in 1979, .77 vs .61 in 1980, and .55 vs .55 in 1981 (Cross et al. 1983b).

Returns Per Spawner

The returns-per-spawner for the Susitna, Kenai, Kasilof, and Crescent Rivers were estimated by Cross et al. (1983b) for brood years 1968-1975. In addition, returns of fish aged 1.2 were developed for the 1976 and 1977 brood years and return estimates of fish aged 1.3 and 2.2 were calculated for the 1976 brood year (Cross et al. 1983b). Allocation of the 1982 catch of sockeye salmon to age group and river system provides return estimates for the 2.3 age group from the 1976 brood year, the 1.3 and 2.2 age group from the 1977 brood year, and the 1.2 age group from the 1978 brood year. Results from the 1982 catch apportionment were used to finalize the ratios of returns-per-spawner for the 1976 brood year and provide minimum estimates for the ratios of returns-per-spawner for the 1977 brood year (Tables 14-17). The ratios are minimal because the six-year-old fish produced by the 1977 brood year which returned in 1983 are not included in the estimates of return.

The preliminary estimate of returns-per-spawner for the Susitna River in 1977 is 1.8 which is below the 1968-1976 average of 4.9. Ratios of returns-per-spawner for Susitna River have ranged from 2.9 in 1973 to 8.5 in 1976 (Table 14). The preliminary 1977 estimate for Kenai River is 3.4 returns-per-spawner which is also lower than the 1968-1976 average of 6.3. Kenai River ratios of returns-per-spawner have ranged from a low of 3.3 in 1976 to a high of 11.1 in 1968 (Table 15). The ratio of returns-per-spawner for Kasilof River in 1977 is 7.2 which is slightly higher than the 1968-1976 average of 6.2. Ratios of returns-per-spawner for Kasilof River were highest in 1975 at 12.3 and lowest in 1968 at 2.0 (Table 16). The preliminary 1977 estimate for Crescent River is 2.0 returns-per-spawner which is similar to the 1968-1976 average of 2.4. Ratios of returns-per-spawner for Crescent River are generally lower than the other systems, and have ranged from a low of 0.8 in 1969 to a high of 5.2 in 1975 (Table 17). The preliminary estimate of returns-per-spawner for the 1977 brood year is within this range and is fairly consistent with ratios developed from past years data.

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Table 14. Returns-per-spawner for sockeye salmon from the Susitna River, Upper Cook Inlet[1].

Brood		Returns by Age Group					Returns
Year	Spawners	1.2	1.3	2.2	2.3	Total[2]	Spawner
1966					43,207		
1967		21,005	206,250	6,656	12,717		
1968	61,010	21,005	147,208	10,043	4,997	183,253	3.0
1969	41,346	64,808	92,160	6,678	3,363	167,009	4.0
1970	44,371	75,213	170,546	9,537	2,488	257,784	5.8
1971	114,707	135,948	314,288	6,891	5,594	462,721	4.0
1972	91,927	128,451	502,234	25,950	17,350	673,985	7.3
1973	116,093	128,475	185,407	11,822	6,806	332,510	2.9
1974	71,849	133,795	118,312	26,451	34,547	313,105	4.4
1975	108,000	197,737	206,863	27,441	39,755	471,796	4.4
1976	111,000	214,715	640,532	23,349	68,883	947,479	8.5
1977	232,724	57,533	345,364	16,908		419,805[4]	1.8[4]
1978	93,029	103,111					
1979	154,848						
1980	189,231						
1981	338,353						
1982	262,687						
AVG[3]	84,478	122,239	264,172	16,462	20,420	423,293	4.9

[1] Allocation of 1982 commercial catches based on scale pattern analysis and migratory timing and catchability.
Allocation of 1978-1981 commercial catches based on scale pattern analyses.
Allocation of 1972-1977 commercial catches based on the escapement age composition.
Source for 1972-1981 data Cross et al. 1983b.

[2] Total returns only include age groups 1.2, 1.3, 2.2, 2.3.

[3] Average calculated for brood years 1968 through 1976.

[4] Preliminary. Estimate represents a minimum value because the return of six-year fish in 1983 are not included.

Table 15. Returns-per-spawner for sockeye salmon from the Kenai River, Upper Cook Inlet[1].

Brood		Returns by Age Group					Return
Year	Spawners	1.2	1.3	2.2	2.3	Total[2]	Spawner
1966					163,441		
1967			318,338	148,526	114,176		
1968	82,180	159,584	628,356	58,057	68,402	914,399	11.1
1969	51,850	26,064	223,052	76,559	74,662	400,337	7.7
1970	72,400	55,509	202,006	132,228	130,287	520,030	7.2
1971	289,270	32,518	455,242	237,802	250,926	976,488	3.4
1972	301,950	443,153	1,496,332	147,373	99,741	2,186,599	7.2
1973	358,070	103,999	2,050,840	81,664	39,706	2,276,209	6.4
1974	144,470	37,255	361,109	75,709	128,564	602,637	4.2
1975	128,500	126,899	484,014	149,819	50,283	811,015	6.3
1976	353,160	226,646	737,456	78,617	118,783	1,161,502	3.3
1977	663,627	132,782	2,086,361	48,529		2,267,672[4]	3.4[4]
1978	349,928	91,983					
1979	245,842						
1980	411,918						
1981	369,829						
1982	535,862						
AVG[3]	197,983	134,625	737,601	115,314	106,817	1,094,357	6.3

[1] Allocation of 1982 commercial catches based on scale pattern analysis and migratory timing and catchability.
Allocation of 1978-1981 commercial catches based on scale pattern analysis.
Allocation of 1972-1977 commercial catches based on the escapement age composition.
Source for 1972-1981 data from Cross et al. 1983b.

[2] Total returns only include age groups 1.2, 1.3, 2.2, 2.3.

[3] Averages calculated for brood years 1968 through 1976.

[4] Preliminary. Estimate represents a minimum value because the return of six-year fish in 1983 are not included.

Table 16. Returns-per-spawner for sockeye salmon from the Kasilof River, Upper Cook Inlet[1].

Brood		Returns by Age Group					Return
Year	Spawners	1.2	1.3	2.2	2.3	Total[2]	Spawner
1966					47,724		
1967			107,418	7,327	3,446		
1968	89,000	104,619	54,201	14,693	3,572	177,085	2.0
1969	46,000	10,677	115,328	7,492	7,709	141,206	3.1
1970	38,000	40,883	11,891	80,516	66,341	199,631	5.2
1971	90,000	28,182	191,159	107,736	58,593	385,670	4.3
1972	113,000	121,115	122,578	122,678	35,036	401,407	3.5
1973	40,000	108,465	299,775	48,922	15,763	472,925	11.8
1974	69,795	183,732	180,601	59,799	67,629	491,761	7.0
1975	47,832	194,165	304,276	80,138	11,643	590,222	12.3
1976	133,537	351,938	354,229	48,702	99,774	854,643[4]	6.4[4]
1977	153,493	185,027	837,384	77,653		1,100,064[4]	7.2[4]
1978	112,550	239,614					
1979	151,758						
1980	185,672						
1981	256,137						
1982	178,955						
AVG[3]	74,129	127,086	181,560	63,408	40,716	412,770	6.2

[1] Allocation of 1982 commercial catches based on scale pattern analysis and migratory timing and catchability.
Allocation of 1978-1981 commercial catches based on scale pattern analysis.
Allocation of 1972-1977 commercial catches based on the escapement age composition.
Source for 1972-1981 data from Cross et al. 1983b.

[2] Total returns only include age groups 1.2, 1.3, 2.2, 2.3.

[3] Averages calculated for brood years 1968 through 1976.

[4] Preliminary. Estimate represents a minimum value because the return of six-year fish in 1983 are not included.

Table 17. Returns-per-spawner for sockeye salmon from the Crescent River, Upper Cook Inlet[1].

Brood		Returns by Age Group					Return
Year	Spawners	1.2	1.3	2.2	2.3	Total[2]	Spawner
1966					9,825		
1967			67,120	4,203	4,605		
1968	55,000	17,330	31,840	1,961	1,184	52,315	0.9
1969	51,000	7,948	27,816	1,810	2,906	40,480	0.8
1970	38,000	14,864	49,846	2,729	7,944	75,383	2.0
1971	44,000	10,394	55,063	3,429	12,895	81,781	1.9
1972	62,000	14,048	97,878	5,315	10,782	128,023	2.1
1973	29,000	19,281	93,223	0	216	112,720	3.9
1974	28,000	4,909	90,765	1,137	3,131	99,942	3.6
1975	41,000	35,113	141,777	6,867	28,164	211,921	5.2
1976	51,000	9,035	21,884	5,733	17,352	54,004	1.1
1977	87,000	5,060	170,079	1,020		176,159[4]	2.0[4]
1978	74,000	15,551					
1979	87,000						
1980	91,000						
1981	41,000						
1982	58,957						
AVG[3]	44,333	14,769	67,788	3,220	9,397	95,174	2.4

[1] Allocation of 1982 commercial catches based on scale pattern analysis and migratory timing and catchability.
Allocation of 1978-1981 commercial catches based on scale pattern analyses.
Allocation of 1972-1977 commercial catches based on the escapement age composition.
Source for 1972-1981 data Cross et al. 1983b.

[2] Total returns only include age groups 1.2, 1.3, 2.2, and 2.3.

[3] Averages calculated for brood years 1968 through 1976.

[4] Preliminary. Estimate represents minimum value because the return of six-year fish in 1983 are not included.

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APPENDIX A

Methods Used to Estimate Catches of Susitna and Kasilof River Sockeye Salmon

Past years' data on CPUE, migratory timing, and catchability were used to separate Susitna River catches from the Suskas allocation made by analysis of scale patterns. Because the equations describe the concepts and procedures we followed to allocate catches to Susitna River, we have listed them first and then provide an explanation of how they were used.

Equations:

The catch from a run is a function of the number present in the fishing area, the catchability coefficient, and the effort expended that day:

$$C(t) = R\phi(t)[1-\exp\{-qf(t)\}] \qquad (1)$$

Where:

$C(t)$ = Catch from a run during day t.

R = Number of fish in the run.

$\phi(t)$ = Fraction of the run R that passes a fixed point of topography on day t (the time density of migration).

q = Catchability coefficient.

$f(t)$ = Effort expended on day t.

The number of fish that survive the fishery is the complement of the catch:

$$E(t) = R\phi(t) - C(t) = R\phi(t) - R\phi(t)[1-\exp\{-qf(t)\}] = R\phi(t)\exp\{-qf(t)\}$$

Where:

$E(t)$ = Number of fish that survive the fishery during day t.

Because a fish that enters the fishing district on day t of the migration might spend more than one day in the fishing district:

$$E(t) = R\phi(t)\exp\{-q[\sum_{i=t}^{t+t_o} f(i)]\}$$

Where:

t_o = Number of days migrating fish remain in the fishing district.

The sum of E(t) for all days of the run is the number of fish that were not caught in the fishing district, the number surviving:

$$\sum_{t=1}^{T} E(t) = \sum_{t=1}^{T} R\phi(t)\exp\{-q[\sum_{i=t}^{t+t_o} f(i)]\} = R\sum_{t=1}^{T} \phi(t)\exp\{-q\sum_{i=t}^{t+t_o} f(i)\} = E$$

Where:

T = Number of days in the migration.

By rearranging the above equation the survival rate (S) of a run from the fishing district was estimated as:

$$R = E/S$$

Where:

$$S = \sum_{t=1}^{T} \phi(t)\exp\{-q\sum_{i=t}^{t+t_o} f(i)\} \qquad (2)$$

Application of the Equations:

Catch per unit effort (CPUE) data from the drift fishery for Susitna River age 1.3 sockeye salmon were compared to escapement counts to determine the average travel time of a Susitna River fish from the fishery to the counting site. We used CPUE information from 1979-1981 which were based on analysis of scale patterns (Cross et al. 1981, 1982, 1983a). The migratory time density (ϕ) of age 1.3 Susitna River sockeye salmon were subsequently estimated using the average travel time to rebuild the 1981 run. Estimates of run size (R), catch (C), effort (f), and migratory time density (ϕ) from 1981 were used in the catch equation (Eq. 1) to calculate catchability coefficients (q) of Susitna River fish by the drift fishery. Data from years other than 1981 were not used to estimate migratory time density or catchability coefficients because catch allocations for the other years were incomplete. The mean catchability coefficient and time densities estimated for Susitna River in 1981 were used with 1982 effort statistics in Eq. 2 to estimate a survival rate for age 1.3 Susitna River sockeye salmon from the drift fishery.

The escapement of Susitna River age 1.3 sockeye salmon from the drift fishery (escapement past the sonar site plus Susitna River fish caught by fisheries other than the drift fishery) was divided by the survival rate to estimate the total run size. The numbers of Susitna River fish caught in the set net fisheries were estimate based on trends in the CPUE. Of the Suskas fish harvested by the set net

fisheries, all fish caught in the Northern District, along the Salamatof Beach, and along the Central District west-side were assumed bound for the Susitna River. All Suskas fish caught on Cohoe/Ninilchik Beach were assumed to be Kasilof River fish. The pattern of CPUE of Suskas fish on Kalifonsky Beach indicated the presence of both Susitna and Kasilof Rivers fish. The ratio of the CPUE on Suskas fish on Salamatof Beach (Susitna River fish) to the CPUE of Suskas fish on Cohoe/Ninilchik Beach (Kasilof River fish) was presumed to approximate the ratio of run abundance for fish headed for these two rivers caught on Kalifonsky Beach. The same ratio was used to split catches of Suskas fish made around Kalgin Island.

The estimated escapement (E) of Susitna River age 1.3 sockeye salmon was subtracted from the run size (R) to provide an estimate of the catch of Susitna River fish by the drift fishery. The estimated drift harvest of Susitna River fish was then subtracted from the drift catch of Suskas fish to estimate the numbers of Kasilof River age 1.3 sockeye salmon caught in the drift fishery.

Assumptions critical to our analysis included: (1) comparisons of peaks in CPUE and escapement gave an accurate indication of travel time for Susitna River fish, (2) migratory time density developed from 1981 data is indicative of the migratory time density of Susitna River fish in 1982, and (3) the catchability of Susitna River fish by the drift fishery in 1982 is similar to the average catchability coefficient calculated for 1981.

APPENDIX B

Daily and cumulative numbers and proportions for the sockeye salmon escapement into Upper Cook Inlet systems are presented in Appendix Tables B-1 through B-9.

Appendix Table B-1. Daily and cumulative sockeye salmon escapement into the Yentna River, Upper Cook Inlet, 1982[1].

DATE	NUMBERS		PROPORTION	
	DAILY	CUMULATIVE	DAILY	CUMULATIVE
June 27	15	15	0.00013	0.00013
28	21	36	0.00018	0.00032
29	9	45	0.00008	0.00040
30	3	48	0.00003	0.00042
July 1	21	69	0.00018	0.00061
2	11	80	0.00010	0.00070
3	48	128	0.00042	0.00112
4	44	172	0.00039	0.00151
5	30	202	0.00026	0.00177
6	17	219	0.00015	0.00192
7	7	226	0.00006	0.00199
8	30	256	0.00026	0.00225
9	18	274	0.00016	0.00241
10	8	282	0.00007	0.00248
11	9	291	0.00008	0.00256
12	10	301	0.00009	0.00264
13	28	329	0.00025	0.00289
14	56	385	0.00049	0.00338
15	72	457	0.00063	0.00401
16	100	557	0.00088	0.00489
17	1,290	1,847	0.01133	0.01622
18	3,006	4,853	0.02640	0.04263
19	12,800	17,653	0.11243	0.15506
20	19,784	37,437	0.17378	0.32884
21	22,521	59,958	0.19782	0.52665
22	11,410	71,368	0.10022	0.62688
23	4,316	75,684	0.03791	0.66479
24	5,283	80,967	0.04640	0.71119
25	2,576	83,543	0.02263	0.73382
26	5,277	88,820	0.04635	0.78017
27	3,458	92,278	0.03037	0.81054
28	2,333	94,611	0.02049	0.83104
29	1,836	96,447	0.01613	0.84716
30	1,293	97,740	0.01136	0.85852
31	3,616	101,356	0.03176	0.89028
August 1	4,852	106,208	0.04262	0.93290
2	1,697	107,905	0.01491	0.94781
3	780	108,685	0.00685	0.95466
4	796	109,481	0.00699	0.96165
5	430	109,911	0.00378	0.96543
6	165	110,076	0.00145	0.96688
7	369	110,445	0.00324	0.97012
8	202	110,647	0.00177	0.97189
9	304	110,951	0.00267	0.97456
10	285	111,236	0.00250	0.97707
11	252	111,488	0.00221	0.97928
12	162	111,650	0.00142	0.98070
13	130	111,780	0.00114	0.98184
14	243	112,023	0.00213	0.98398
15	116	112,139	0.00102	0.98500
16	93	112,232	0.00082	0.98581
17	120	112,352	0.00105	0.98687
18	104	112,456	0.00091	0.98778
19	106	112,562	0.00093	0.98871
20	92	112,654	0.00081	0.98952
21	33	112,687	0.00029	0.98981
22	38	112,725	0.00033	0.99014
23	95	112,820	0.00083	0.99098
24	124	112,944	0.00109	0.99207
25	107	113,051	0.00094	0.99301
26	86	113,137	0.00076	0.99376
27	75	113,212	0.00066	0.99442
28	92	113,304	0.00081	0.99523
29	104	113,408	0.00091	0.99614
30	76	113,484	0.00067	0.99681
31	47	113,531	0.00041	0.99722
September 1	67	113,598	0.00059	0.99781
2	104	113,702	0.00091	0.99873
3	66	113,768	0.00058	0.99931
4	64	113,832	0.00056	0.99987
5	15	113,847	0.00013	1.00000

[1] Source: Alaska Department of Fish and Game. 1983. Phase I Final Draft Report. Adult Anadromous Fisheries Project. Alaska Department of Fish and Game. Susitna Hydroelectric Project. (In press).

Escapement estimates represent final apportioned sonar counts.

Appendix Table B-2. Daily and cumulative sockeye salmon escapement into Susitna River as recorded by side-scan sonar at Susitna Station, Upper Cook Inlet, 1982[1].

DATE	NUMBERS		PROPORTION	
	DAILY	CUMULATIVE	DAILY	CUMULATIVE
July 1	90	90	0.00073	0.00073
2	102	192	0.00082	0.00155
3	125	317	0.00101	0.00256
4	98	415	0.00079	0.00335
5	158	573	0.00128	0.00462
6	109	682	0.00088	0.00550
7	163	845	0.00132	0.00682
8	169	1,014	0.00136	0.00818
9	172	1,186	0.00139	0.00957
10	168	1,354	0.00136	0.01093
11	103	1,457	0.00083	0.01176
12	101	1,558	0.00082	0.01257
13	94	1,652	0.00076	0.01333
14	105	1,757	0.00085	0.01418
15	97	1,854	0.00078	0.01496
16	183	2,037	0.00148	0.01644
17	965	3,002	0.00779	0.02423
18	2,772	5,774	0.02237	0.04660
19	13,836	19,610	0.11166	0.15826
20	13,153	32,763	0.10615	0.26440
21	14,061	46,824	0.11347	0.37788
22	15,632	62,456	0.12615	0.50403
23	8,405	70,861	0.06783	0.57186
24[2]	3,031	73,892	0.02446	0.59632
25[2]	6,009	79,901	0.04849	0.64482
26[2]	7,382	87,283	0.05957	0.70439
27[2]	9,279	96,562	0.07488	0.77927
28[2]	14,639	111,201	0.11814	0.89741
29[2]	688	111,889	0.00555	0.90296
30[2]	2,649	114,538	0.02138	0.92434
31[2]	3,610	118,148	0.02913	0.95348
August 1[2]	1,503	119,651	0.01213	0.96560
2[2]	52	119,703	0.00042	0.96602
3[2]	112	119,815	0.00090	0.96693
4[2]	0	119,815	0.00000	0.96693
5	327	120,142	0.00264	0.96957
6	249	120,391	0.00201	0.97158
7	221	120,612	0.00178	0.97336
8	174	120,786	0.00140	0.97476
9	136	120,922	0.00110	0.97586
10	167	121,089	0.00135	0.97721
11	136	121,225	0.00110	0.97831
12	174	121,399	0.00140	0.97971
13	284	121,683	0.00229	0.98200
14	234	121,917	0.00189	0.98389
15	186	122,103	0.00150	0.98539
16	150	122,253	0.00121	0.98660
17	123	122,376	0.00099	0.98760
18	114	122,490	0.00092	0.98852
19	116	122,606	0.00094	0.98945
20	121	122,727	0.00098	0.99043
21	106	122,833	0.00086	0.99128
22	100	122,933	0.00081	0.99209
23	118	123,051	0.00095	0.99304
24	100	123,151	0.00081	0.99385
25	61	123,212	0.00049	0.99434
26	64	123,276	0.00052	0.99486
27	66	123,342	0.00053	0.99539
28	77	123,419	0.00062	0.99601
29	59	123,478	0.00048	0.99649
30	68	123,546	0.00055	0.99704
31	61	123,607	0.00049	0.99753
September 1	76	123,683	0.00061	0.99814
2	73	123,756	0.00059	0.99873
3	55	123,811	0.00044	0.99918
4	42	123,853	0.00034	0.99952
5	60	123,913	0.00048	1.00000

[1] Source: King and Tarbox 1983.

[2] West bank sonar inoperative.

Appendix Table B-3. Daily and cumulative sockeye salmon escapement into the Kenai River, Upper Cook Inlet, 1982[1].

DATE	NUMBERS		PROPORTION	
	DAILY	CUMULATIVE	DAILY	CUMULATIVE
June 22	1,080	1,080	0.00182	0.00182
23	540	1,620	0.00091	0.00274
24	554	2,174	0.00094	0.00367
25	522	2,696	0.00088	0.00455
26	453	3,149	0.00077	0.00532
27	603	3,752	0.00102	0.00634
28	539	4,291	0.00091	0.00725
29	357	4,648	0.00060	0.00785
30	417	5,065	0.00070	0.00855
July 1	569	5,634	0.00096	0.00952
2	721	6,355	0.00122	0.01073
3	427	6,782	0.00072	0.01145
4	228	7,010	0.00039	0.01184
5	191	7,201	0.00032	0.01216
6	303	7,504	0.00051	0.01267
7	404	7,908	0.00068	0.01336
8	366	8,274	0.00062	0.01397
9	818	9,092	0.00138	0.01536
10	522	9,614	0.00088	0.01624
11	267	9,881	0.00045	0.01669
12	897	10,778	0.00151	0.01820
13	968	11,746	0.00163	0.01984
14	978	12,724	0.00165	0.02149
15	3,150	15,874	0.00532	0.02681
16	13,079	28,953	0.02209	0.04890
17	12,678	41,631	0.02141	0.07031
18	71,105	112,736	0.12009	0.19040
19	86,993	199,729	0.14692	0.33732
20	93,779	293,508	0.15838	0.49570
21	55,741	349,249	0.09414	0.58984
22	21,400	370,649	0.03614	0.62598
23	27,220	397,869	0.04597	0.67195
24	24,179	422,048	0.04084	0.71279
25	25,711	447,759	0.04342	0.75621
26	18,129	465,888	0.03062	0.78683
27	56,278	522,166	0.09505	0.88187
28	25,049	547,215	0.04230	0.92418
29	12,293	559,508	0.02076	0.94494
30	9,241	568,749	0.01561	0.96054
31	8,506	577,255	0.01437	0.97491
August 1	5,250	582,505	0.00887	0.98378
2	3,833	586,338	0.00647	0.99025
3	3,388	589,726	0.00572	0.99597
4	2,385	592,111	0.00403	1.00000
Total	619,831	619,831	1.00000	1.00000

[1] Source: King, B., K. Tarbox 1983. Escapement figures represent final apportioned sonar counts. Sonar counts for 22 June through 4 August were expanded based on historical run timing information.

Appendix Table B-4. Daily and cumulative sockeye salmon escapement into the Kasilof River, Upper Cook Inlet, 1982[1].

DATE	NUMBERS		PROPORTION	
	DAILY	CUMULATIVE	DAILY	CUMULATIVE
June 10	247	247	0.00153	0.00153
11	288	535	0.00179	0.00332
12	318	853	0.00197	0.00529
13	320	1,173	0.00198	0.00727
14	292	1,465	0.00181	0.00909
15	250	1,715	0.00155	0.01064
16	309	2,024	0.00192	0.01255
17	239	2,263	0.00148	0.01403
18	391	2,654	0.00242	0.01646
19	2,132	4,786	0.01322	0.02968
20	1,456	6,242	0.00903	0.03871
21	977	7,219	0.00606	0.04477
22	498	7,717	0.00309	0.04786
23	456	8,173	0.00283	0.05069
24	650	8,823	0.00403	0.05472
25	649	9,472	0.00402	0.05874
26	462	9,934	0.00287	0.06161
27	514	10,448	0.00319	0.06480
28	531	10,979	0.00329	0.06809
29	641	11,620	0.00398	0.07206
30	892	12,512	0.00553	0.07760
July 1	1,613	14,125	0.01000	0.08760
2	2,218	16,343	0.01376	0.10136
3	2,463	18,806	0.01527	0.11663
4	1,853	20,659	0.01149	0.12812
5	1,353	22,012	0.00839	0.13651
6	1,272	23,284	0.00789	0.14440
7	1,229	24,513	0.00762	0.15202
8	1,665	26,178	0.01033	0.16235
9	1,891	28,069	0.01173	0.17408
10	1,435	29,504	0.00890	0.18298
11	2,429	31,933	0.01506	0.19804
12	3,621	35,554	0.02246	0.22050
13	3,612	39,166	0.02240	0.24290
14	5,411	44,577	0.03356	0.27646
15	8,161	52,738	0.05061	0.32707
16	11,771	64,509	0.07300	0.40007
17	8,302	72,811	0.05149	0.45156
18	15,734	88,545	0.09758	0.54913
19	15,402	103,947	0.09552	0.64465
20	11,820	115,767	0.07330	0.71796
21	10,818	126,585	0.06709	0.78505
22	7,466	134,051	0.04630	0.83135
23	2,792	136,843	0.01732	0.84867
24	1,722	138,565	0.01068	0.85934
25	2,688	141,253	0.01667	0.87601
26	2,867	144,120	0.01778	0.89380
27	3,279	147,399	0.02034	0.91413
28	3,289	150,688	0.02040	0.93453
29	2,044	152,732	0.01268	0.94720
30	1,682	154,414	0.01043	0.95764
31	1,584	155,998	0.00982	0.96746
August 1	1,830	157,828	0.01135	0.97881
2	1,817	159,645	0.01127	0.99008
3	1,600	161,245	0.00992	1.00000
Total	180,239	180,239	1.00000	1.00000

[1] Source: King, B. and K. Tarbox 1983. Escapement figures represent final apportioned sonar counts. Sonar counts for 10 June through 3 August were expanded based on historical run timing information.

Appendix Table B-5. Daily and cumulative sockeye salmon escapement into the Crescent River, Upper Cook Inlet, 1982[1].

DATE	NUMBERS		PROPORTION	
	DAILY	CUMULATIVE	DAILY	CUMULATIVE
July 1	14	14	0.00029	0.00029
2	11	25	0.00022	0.00051
3	20	45	0.00041	0.00092
4	32	77	0.00065	0.00157
5	27	104	0.00055	0.00212
6	33	137	0.00067	0.00279
7	139	276	0.00283	0.00562
8	937	1,213	0.01909	0.02471
9	2,158	3,371	0.04396	0.06867
10	2,432	5,803	0.04954	0.11821
11	1,676	7,479	0.03414	0.15235
12	1,749	9,228	0.03563	0.18798
13	1,965	11,193	0.04003	0.22801
14	1,598	12,791	0.03255	0.26056
15	1,637	14,428	0.03335	0.29390
16	801	15,229	0.01632	0.31022
17	1,635	16,864	0.03331	0.34353
18	2,448	19,312	0.04987	0.39339
19	2,913	22,225	0.05934	0.45273
20	4,888	27,113	0.09957	0.55230
21	4,310	31,423	0.08780	0.64010
22	3,122	34,545	0.06360	0.70369
23	2,962	37,507	0.06034	0.76403
24	2,864	40,371	0.05834	0.82237
25	1,661	42,032	0.03384	0.85621
26	2,266	44,298	0.04616	0.90236
27	1,914	46,212	0.03899	0.94135
28	991	47,203	0.02019	0.96154
29	882	48,085	0.01797	0.97951
30	590	48,675	0.01202	0.99153
31	416	49,091	0.00847	1.00000
Total	58,957	58,957	1.000000	1.000000

[1] Source: King, B. and K. Tarbox 1983. Escapement figures represent final apportioned sonar counts. Sonar counts for 1 July through 31 July were expanded based on historical run timing information.

Appendix Table B-6. Daily and cumulative sockeye salmon escapement into Fish Creek, Upper Cook Inlet, 1982[1].

Date		Numbers		Proportion	
		Daily	Cumulative	Daily	Cumulative
July	12	3	3	.00011	.00011
	13	0	3	.00000	.00011
	14	16	19	.00057	.00068
	15	0	19	.00000	.00068
	16	10	29	.00036	.00104
	17	0	29	.00000	.00104
	18	35	64	.00126	.00230
	19	291	355	.01044	.01274
	20	1,465	1,820	.05258	.06532
	21	1,867	3,687	.06700	.13232
	22	3,230	6,917	.11592	.24824
	23	1,676	8,593	.06015	.30839
	24	3,768	12,361	.13523	.44362
	25	2,204	14,565	.07910	.52272
	26	2,049	16,614	.07354	.59626
	27	1,665	18,279	.05975	.65601
	28	2,117	20,396	.07598	.73199
	29	1,695	22,091	.06083	.79282
	30	1,970	24,061	.07070	.86352
	31	93	24,154	.00334	.86686
August	1	92	24,246	.00330	.87016
	2	546	24,792	.01960	.88976
	3	304	25,096	.01091	.90067
	4	37	25,133	.00133	.90200
	5	88	25,221	.00316	.90516
	6	26	25,247	.00093	.90609
	7	29	25,276	.00104	.90713
	8	150	25,426	.00538	.91251
	9	58	25,484	.00208	.91459
	10	71	25,555	.00255	.91714
	11	278	25,833	.00998	.92712
	12	118	25,951	.00423	.93135
	13	73	26,024	.00262	.93397
	14	101	26,125	.00362	.93759
	15	114	26,239	.00409	.94168
	16	76	26,315	.00273	.94441
	17	128	26,443	.00459	.94900
	18	363	26,806	.01303	.96203
	19	172	26,978	.00617	.96820
	20	86	27,064	.00309	.97129
	21	20	27,084	.00072	.97201
	22	41	27,125	.00147	.97348
	23	39	27,164	.00140	.97488
	24	21	27,185	.00075	.97563
	25	35	27,220	.00126	.97689
	26	91	27,311	.00326	.98015
	27	29	29,340	.00104	.98119
	28	68	27,408	.00244	.98363
	29	42	27,450	.00151	.98514
	30	41	27,491	.00147	.98661
	31	84	27,575	.00301	.98962
Sept.	1	42	27,617	.00151	.99113
	2	37	27,654	.00133	.99246
	3	76	27,730	.00273	.99519
	4	29	27,759	.00104	.99623
	5	30	27,789	.00108	.99731
	6	20	27,809	.00072	.99803
	7	31	27,840	.00111	.99914
	8	24	27,864	.00086	1.00000
Total		28,164	28,164	1.00000	1.00000

[1] Source: Chlupach, R. 1983. Escapement figures represent weir counts. Fish Creek below the weir was walked and floated on 9 September and an additional 300 sockeye salmon were added to the total weir count.

Appendix Table B-7. Daily and cumulative sockeye salmon escapement into Cottonwood Creek, Upper Cook Inlet, 1982[1].

DATE	NUMBERS		PROPORTION	
	DAILY	CUMULATIVE	DAILY	CUMULATIVE
July 12	0	0	0.00000	0.00000
13	0	0	0.00000	0.00000
14	0	0	0.00000	0.00000
15	2	2	0.00011	0.00011
16	1	3	0.00005	0.00016
17	8	11	0.00044	0.00060
18	0	11	0.00000	0.00060
19	16	27	0.00087	0.00147
20	3	30	0.00016	0.00163
21	10	40	0.00054	0.00218
22	3	43	0.00016	0.00234
23	1	44	0.00005	0.00240
24	1	45	0.00005	0.00245
25	8	53	0.00044	0.00289
26	11	64	0.00060	0.00349
27	27	91	0.00147	0.00496
28	559	650	0.03045	0.03541
29	1,613	2,263	0.08786	0.12327
30	2,218	4,481	0.12082	0.24409
31	1,477	5,958	0.08046	0.32455
August 1	1,669	7,627	0.09091	0.41546
2	1,603	9,230	0.08732	0.50278
3	1,916	11,146	0.10437	0.60715
4	1,492	12,638	0.08127	0.68842
5	211	12,849	0.01149	0.69991
6	563	13,412	0.03067	0.73058
7	451	13,863	0.02457	0.75515
8	229	14,092	0.01247	0.76762
9	58	14,150	0.00316	0.77078
10	141	14,291	0.00768	0.77846
11	929	15,220	0.05060	0.82907
12	1,463	16,683	0.07969	0.90876
13	69	16,752	0.00376	0.91252
14	171	16,923	0.00931	0.92183
15	37	16,960	0.00202	0.92385
16	3	16,963	0.00016	0.92401
17	98	17,061	0.00534	0.92935
18	114	17,175	0.00621	0.93556
19	88	17,263	0.00479	0.94035
20	363	17,626	0.01977	0.96013
21	154	17,780	0.00839	0.96852
22	22	17,802	0.00120	0.96971
23	45	17,847	0.00245	0.97216
24	56	17,903	0.00305	0.97522
25	25	17,928	0.00136	0.97658
26	37	17,965	0.00202	0.97859
27	71	18,036	0.00387	0.98246
28	52	18,088	0.00283	0.98529
29	39	18,127	0.00212	0.98742
30	37	18,164	0.00202	0.98943
31	48	18,212	0.00261	0.99205
September 1	70	18,282	0.00381	0.99586
2	45	18,327	0.00245	0.99831
3	26	18,353	0.00142	0.99973
4	3	18,356	0.00016	0.99989
5	1	18,357	0.00005	0.99995
6	1	18,358	0.00005	1.00000
Total	18,358	18,358	1.00000	1.00000

[1] Source: Chlupach, R. 1982. Escapement figures represent weir counts.

Appendix Table B-8. Daily and cumulative sockeye salmon escapement into Packers Creek, Upper Cook Inlet, 1982[1].

DATE	NUMBERS		PROPORTION	
	DAILY	CUMULATIVE	DAILY	CUMULATIVE
June 10	147	147	0.00929	0.00929
11	3	150	0.00019	0.00948
12	7	157	0.00044	0.00992
13	21	178	0.00133	0.01125
14	9	187	0.00057	0.01182
15	20	207	0.00126	0.01308
16	6	213	0.00038	0.01346
17	207	420	0.01308	0.02654
18	27	447	0.00171	0.02824
19	82	529	0.00518	0.03343
20	0	529	0.00000	0.03343
21	86	615	0.00543	0.03886
22	82	697	0.00518	0.04404
23	160	857	0.01011	0.05415
24	9	866	0.00057	0.05472
25	5	871	0.00032	0.05504
26	59	930	0.00373	0.05876
27	24	954	0.00152	0.06028
28	33	987	0.00209	0.06237
29	0	987	0.00000	0.06237
30	20	1,007	0.00126	0.06363
July 1	8	1,015	0.00051	0.06413
2	0	1,015	0.00000	0.06413
3	0	1,015	0.00000	0.06413
4	3	1,018	0.00019	0.06432
5	0	1,018	0.00000	0.06432
6	1	1,019	0.00006	0.06439
7	0	1,019	0.00000	0.06439
8	1	1,020	0.00006	0.06445
9	21	1,041	0.00133	0.06578
10	8	1,049	0.00051	0.06628
11	14	1,063	0.00088	0.06717
12	18	1,081	0.00114	0.06831
13	21	1,102	0.00133	0.06963
14	35	1,137	0.00221	0.07184
15	43	1,180	0.00272	0.07456
16	74	1,254	0.00468	0.07924
17	10	1,264	0.00063	0.07987
18	69	1,333	0.00436	0.08423
19	57	1,390	0.00360	0.08783
20	326	1,716	0.02060	0.10843
21	879	2,595	0.05554	0.16397
22	177	2,772	0.01118	0.17515
23	231	3,003	0.01460	0.18975
24	447	3,450	0.02824	0.21800
25	335	3,785	0.02117	0.23916
26	400	4,185	0.02527	0.26444
27	216	4,401	0.01365	0.27809
28	351	4,752	0.02218	0.30027
29	153	4,905	0.00967	0.30993
30	60	4,965	0.00379	0.31372
31	23	4,988	0.00145	0.31518
August 1	481	5,469	0.03039	0.34557
2	1,072	6,541	0.06774	0.41331
3	644	7,185	0.04069	0.45400
4	1,613	8,798	0.10192	0.55592
5	1,400	10,198	0.08846	0.64438
6	290	10,488	0.01832	0.66271
7	182	10,670	0.01150	0.67421
8	351	11,021	0.02218	0.69639
9	755	11,776	0.04771	0.74409
10	408	12,184	0.02578	0.76987
11	480	12,664	0.03033	0.80020
12	578	13,242	0.03652	0.83672
13	439	13,681	0.02774	0.86446
14	591	14,272	0.03734	0.90181
15	221	14,493	0.01396	0.91577
16	187	14,680	0.01182	0.92759
17	396	15,076	0.02502	0.95261
18	265	15,341	0.01674	0.96935
19	192	15,533	0.01213	0.98149
20	0	15,533	0.00000	0.98149
21	0	15,533	0.00000	0.98149
22	0	15,533	0.00000	0.98149
23	23	15,556	0.00145	0.98294
24	13	15,569	0.00082	0.98376
25	72	15,641	0.00455	0.98831
26	149	15,790	0.00941	0.99773
27	22	15,812	0.00139	0.99912
28	4	15,816	0.00025	0.99937
29	10	15,826	0.00063	1.00000
Total	15,826	15,826	1.00000	1.00000

[1] Source: Cook Inlet Aquaculture Association 1982. Escapement figures represent weir counts.

Appendix Table B-9. Daily and cumulative sockeye salmon escapement into Wolverine Creek, Upper Cook Inlet, 1982[1].

DATE	NUMBERS		PROPORTION	
	DAILY	CUMULATIVE	DAILY	CUMULATIVE
June 22	1,017	1,017	0.03086	0.03086
23	2,504	3,521	0.07599	0.10686
24	952	4,473	0.02889	0.13575
25	2,161	6,634	0.06558	0.20134
26	2,065	8,699	0.06267	0.26401
27	2,644	11,343	0.08024	0.34425
28	3,356	14,699	0.10185	0.44610
29	2,632	17,331	0.07988	0.52598
30	2,001	19,332	0.06073	0.58671
July 1	442	19,774	0.01341	0.60012
2	1,677	21,451	0.05090	0.65102
3	2,161	23,612	0.06558	0.71660
4	347	23,959	0.01053	0.72713
5	496	24,455	0.01505	0.74219
6	487	24,942	0.01478	0.75697
7	749	25,691	0.02273	0.77970
8	770	26,461	0.02337	0.80307
9	206	26,667	0.00625	0.80932
10	202	26,869	0.00613	0.81545
11	93	26,962	0.00282	0.81827
12	163	27,125	0.00495	0.82322
13	246	27,371	0.00747	0.83068
14	579	27,950	0.01757	0.84825
15	372	28,322	0.01129	0.85954
16	227	28,549	0.00689	0.86643
17	35	28,584	0.00106	0.86750
18	299	28,883	0.00907	0.87657
19	45	28,928	0.00137	0.87794
20	250	29,178	0.00759	0.88552
21	191	29,369	0.00580	0.89132
22	493	29,862	0.01496	0.90628
23	36	29,898	0.00109	0.90737
24	257	30,155	0.00780	0.91517
25	468	30,623	0.01420	0.92938
26	394	31,017	0.01196	0.94134
27	226	31,243	0.00686	0.94819
28	209	31,452	0.00634	0.95454
29	51	31,503	0.00155	0.95608
30	332	31,835	0.01008	0.96616
31	0	31,835	0.00000	0.96616
August 1	464	32,299	0.01408	0.98024
2	111	32,410	0.00337	0.98361
3	158	32,568	0.00480	0.98841
4	176	32,744	0.00534	0.99375
5	160	32,904	0.00486	0.99860
6	46	32,950	0.00140	1.00000
Total	32,950	32,950	1.00000	1.00000

[1] Source: Means, T. and P. Marcuson. 1982. Escapement figures represent weir counts.

APPENDIX C

Age and size composition data for commercial harvests, sport harvests, and escapements of sockeye salmon in Upper Cook Inlet are reported in Appendix Tables C-1 through C-17.

Appendix Table C-1. Age composition by river of sockeye salmon escapement, sport harvest, and spawners, Upper Cook Inlet, 1982.

River		1.2	1.3	2.2	2.3	Other	Total
Susitna River[1]							
Escapement	Numbers	62,353	158,138	8,756	28,656	7,429	265,332
	Percent	23.5	59.6	3.3	10.8	2.8	100.0
Sport Harvest	Numbers	622	1,576	87	286	74	2,645
	Percent	23.5	59.6	3.3	10.8	2.8	100.0
Spawners	Numbers	61,731	156,562	8,669	28,370	7,355	262,687
	Percent	23.5	59.6	3.3	10.8	2.8	100.0
Kenai River[2]							
Escapement	Numbers	35,887	542,072	17,919	22,958	995	619,831
	Percent	5.8	87.5	2.9	3.7	0.1	100.0
Russian River Sport Harvest	Numbers	4,011	1,276	20,963	17,864	1,458	45,572
	Percent	8.8	2.8	46.0	39.2	3.2	100.0
Kenai River Sport Harvest Below Soldotna Bridge	Numbers	679	10,243	339	433	12	11,706
	Percent	5.8	87.5	2.9	3.7	0.1	100.0
Kenai River Sport Harvest Above Soldotna Bridge	Numbers	2,227	33,597	1,114	1,421	38	38,397
	Percent	5.8	87.5	2.9	3.7	0.1	100.0
Spawners	Numbers	29,649	507,199	0[3]	3,673	0[3]	535,862
	Percent	5.5	93.8	0	0.7	0	100.0
Kasilof River[4]							
Escapement	Numbers	55,153	98,050	16,762	8,471	1,803	180,239
	Percent	30.6	54.4	9.3	4.7	1.0	100.0
Sport and Dip Net Harvest	Numbers	751	1,334	228	115	25	2,453
	Percent	30.6	54.4	9.3	4.7	1.0	100.0
Personal-Use Gill Net Harvest	Numbers	475	5,280	30	1,758	0	7,543
	Percent	6.3	70.0	0.4	23.3	0	100.0
Fish Taken for Eggs and Offspring Returned to Kasilof	Numbers	3,148	5,596	957	483	103	10,287
	Percent	30.6	54.4	9.3	4.7	1.0	100.0
Fish Taken for Eggs and Offspring Not Returned to Kasilof	Numbers	393	699	119	60	13	1,284
	Percent	30.6	54.4	9.3	4.7	1.0	100.0
Spawners	Numbers	54,760	97,351	16,643	8,411	1,790	178,955
	Percent	30.6	54.4	9.3	4.7	1.0	100.0

-Continued-

Appendix Table C-1. Age composition by river of sockeye salmon escapement, sport harvest, and spawners, Upper Cook Inlet, 1982 (continued).

River		1.2	1.3	2.2	2.3	Other	Total
Crescent River[5]	Numbers	7,605	46,694	472	4,127	59	58,957
	Percent	12.9	79.2	0.8	7.0	0.1	100.0
Fish Creek[6]	Numbers	6,731	18,363	535	563	1,972	28,164
	Percent	7.0	23.9	65.2	1.9	2.0	100.0

[1] Source of Susitna River escapement estimate is Susitna Hydroelectric studies (ADF&G 1983). Source of escapement age composition is King and Tarbox 1983. Source of sport harvest is Mills 1983. Scales were not sampled from the sport harvest, therefore the age composition of the escapement was used. The sport harvest was subtracted from the escapement to calculate the numbers of spawners.

[2] Source of Kenai River escapement estimate and age composition is King and Tarbox 1983. Source of sport harvest estimates is Mills 1983. Scales were not sampled from the sport harvest. The age composition of the escapement was used for the sport harvest in the mainstem of the river. Age composition of the Russian River escapement was used for the sport harvest in that river. The Russian River sport harvest and the Kenai River sport harvest above the Soldotna bridge were subtracted from the escapement to calculate the numbers of spawners.

[3] Based on the age composition of the escapement, fewer fish aged 2.2 and "other" entered the Kenai River than were caught in the sport fishery. Consequently, when the numbers of fish age 2.2 and "other" caught in the sport fishery were subtracted from the escapement the result was a negative number.

[4] Source of Kasilof River escapement estimate and age composition is King and Tarbox 1983. The numbers of fish harvested by the sport fishery includes 653 sockeye salmon caught on hook and line (Source: Mills 1983) and an estimated 1,800 fish (Logan et al. 1984) caught by the dipnet fishery. Source of the numbers of fish caught in the personal-use gillnet fishery is Ruesch 1984. Scales were not taken from fish caught in the sport fishery or dipnet fishery, therefore, the age composition of the escapement was applied to those catches. The sport fish harvest, dip net harvest, and personal-use harvest took place below the sonar counters, therefore they were not subtracted from the escapement to calculate numbers of spawners. Source of numbers of fish taken for eggs is Flagg et al. 1985. Scales were not taken from the fish taken for eggs, therefore, the age composition of the escapement was applied to the egg-take fish. Fish taken for eggs whose progeny was not returned to the Kasilof River was subtracted from the escapement to calculate numbers of spawners.

[5] Source of Crescent River escapement estimate and age composition is King and Tarbox 1983.

[6] Source of Fish Creek escapement estimate and age composition is Chlupach 1983.

Appendix Table C-2. Age and sex composition by date of the Central District drift net sockeye salmon harvest, Upper Cook Inlet, 1982.

		AGE GROUP							
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	TOTAL
SAMPLE PERIOD 1 6/25- 6/25									
PERIOD SAMPLE SIZE 322									
MALE	PERCENT	0.00	4.35	0.00	37.89	1.86	0.00	15.83	59.93
	NUMBERS	0	250	0	2,178	107	0	910	3,445
FEMALE	PERCENT	0.00	1.55	0.00	25.78	.31	0.00	12.42	40.07
	NUMBERS	0	89	0	1,482	18	0	714	2,303
SEXES COMBINED	PERCENT	0.00	5.90	0.00	63.67	2.17	0.00	28.25	100.00
	NUMBERS	0	339	0	3,660	125	0	1,624	5,748
	STANDARD ERROR	0	76	0	155	47	0	145	
SAMPLE PERIOD 2 6/28- 6/28									
PERIOD SAMPLE SIZE 530									
MALE	PERCENT	0.00	3.96	0.00	51.33	3.21	.19	13.20	71.89
	NUMBERS	0	661	0	8,568	535	31	2,204	11,999
FEMALE	PERCENT	0.00	.94	0.00	21.14	.75	.19	5.09	28.11
	NUMBERS	0	157	0	3,528	126	31	850	4,692
SEXES COMBINED	PERCENT	0.00	4.90	0.00	72.47	3.96	.37	18.30	100.00
	NUMBERS	0	818	0	12,096	661	62	3,054	16,691
	STANDARD ERROR	0	157	0	325	142	45	281	
SAMPLE PERIOD 3 7/ 2- 7/ 2									
PERIOD SAMPLE SIZE 543									
MALE	PERCENT	0.00	4.79	0.00	46.78	1.29	0.00	6.81	59.67
	NUMBERS	0	1,944	0	18,987	523	0	2,766	24,220
FEMALE	PERCENT	0.00	.55	0.00	33.52	.18	0.00	6.08	40.33
	NUMBERS	0	224	0	13,605	75	0	2,467	16,371
SEXES COMBINED	PERCENT	0.00	5.34	0.00	80.29	1.47	0.00	12.89	100.00
	NUMBERS	0	2,168	0	32,592	598	0	5,233	40,591
	STANDARD ERROR	0	392	0	694	210	0	585	

-Continued-

Appendix Table C-2. Age and sex composition by date of the Central District drift net sockeye salmon harvest, Upper Cook Inlet, 1982 (continued).

		AGE GROUP							
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	TOTAL
SAMPLE PERIOD 4 7/ 5- 7/ 5									
PERIOD SAMPLE SIZE 512									
MALE	PERCENT	0.00	3.32	0.00	49.42	1.95	.20	6.05	60.94
	NUMBERS	0	2,110	0	31,408	1,241	124	3,848	38,731
FEMALE	PERCENT	0.00	.78	0.00	33.99	.59	.59	3.12	39.06
	NUMBERS	0	497	0	21,601	372	372	1,986	24,828
SEXES COMBINED	PERCENT	0.00	4.10	0.00	83.40	2.54	.78	9.18	100.00
	NUMBERS	0	2,607	0	53,009	1,613	496	5,834	63,559
	STANDARD ERROR	0	558	0	1,047	443	248	812	
SAMPLE PERIOD 5 7/ 9- 7/ 9									
PERIOD SAMPLE SIZE 522									
MALE	PERCENT	0.00	6.51	0.00	49.23	1.34	0.00	4.21	61.30
	NUMBERS	0	10,561	0	79,827	2,174	0	6,833	99,395
FEMALE	PERCENT	0.00	1.15	0.00	35.06	.77	0.00	1.72	38.70
	NUMBERS	0	1,864	0	56,842	1,242	0	2,795	62,743
SEXES COMBINED	PERCENT	0.00	7.66	0.00	84.29	2.11	0.00	5.94	100.00
	NUMBERS	0	12,425	0	136,669	3,416	0	9,628	162,138
	STANDARD ERROR	0	1,890	0	2,585	1,021	0	1,680	
SAMPLE PERIOD 6 7/12- 7/12									
PERIOD SAMPLE SIZE 536									
MALE	PERCENT	0.00	7.09	0.00	43.10	1.12	.19	3.17	54.66
	NUMBERS	0	18,315	0	111,333	2,892	482	8,193	141,215
FEMALE	PERCENT	0.00	3.92	0.00	37.69	.75	0.00	2.98	45.34
	NUMBERS	0	10,121	0	97,356	1,928	0	7,711	117,116
SEXES COMBINED	PERCENT	0.00	11.01	0.00	80.78	1.87	.19	6.16	100.00
	NUMBERS	0	28,436	0	208,689	4,820	482	15,904	258,331
	STANDARD ERROR	0	3,496	0	4,401	1,513	487	2,686	

-Continued-

Appendix Table C-2. Age and sex composition by date of the Central District drift net sockeye salmon harvest, Upper Cook Inlet, 1982 (continued).

		AGE GROUP							
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	TOTAL
SAMPLE PERIOD 7 7/16- 7/16									
PERIOD SAMPLE SIZE 533									
MALE	PERCENT	0.00	2.25	0.00	45.40	1.13	0.00	3.00	51.78
	NUMBERS	0	12,576	0	253,612	6,288	0	16,768	289,244
FEMALE	PERCENT	0.00	1.69	0.00	40.71	.19	.19	5.44	48.22
	NUMBERS	0	9,432	0	227,412	1,048	1,048	30,392	269,332
SEXES COMBINED	PERCENT	0.00	3.94	0.00	86.12	1.31	.19	8.44	100.00
	NUMBERS	0	22,008	0	481,024	7,336	1,048	47,160	558,576
	STANDARD ERROR	0	4,712	0	8,373	2,754	1,055	6,733	
SAMPLE PERIOD 8 7/19- 7/19									
PERIOD SAMPLE SIZE 534									
MALE	PERCENT	0.00	5.24	0.00	46.63	1.12	0.00	3.37	56.37
	NUMBERS	0	15,151	0	134,735	3,247	0	9,740	162,873
FEMALE	PERCENT	0.00	2.25	0.00	36.89	1.12	.19	3.18	43.63
	NUMBERS	0	6,493	0	106,597	3,247	541	9,199	126,077
SEXES COMBINED	PERCENT	0.00	7.49	0.00	83.52	2.25	.19	6.55	100.00
	NUMBERS	0	21,644	0	241,332	6,494	541	18,939	288,950
	STANDARD ERROR	0	3,295	0	4,644	1,857	546	3,097	
SAMPLE PERIOD 9 7/20- 7/20									
PERIOD SAMPLE SIZE 272									
MALE	PERCENT	0.00	4.04	0.00	37.87	1.47	.37	2.21	45.96
	NUMBERS	0	10,314	0	96,576	3,751	938	5,626	117,205
FEMALE	PERCENT	0.00	2.21	0.00	48.16	.74	0.00	2.94	54.04
	NUMBERS	0	5,626	0	122,831	1,875	0	7,501	137,833
SEXES COMBINED	PERCENT	0.00	6.25	0.00	86.03	2.21	.37	5.15	100.00
	NUMBERS	0	15,940	0	219,407	5,626	938	13,127	255,038
	STANDARD ERROR	0	3,751	0	5,371	2,278	941	3,425	

-Continued-

Appendix Table C-2. Age and sex composition by date of the Central District drift net sockeye salmon harvest, Upper Cook Inlet, 1982, (continued).

		AGE GROUP							
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	TOTAL
SAMPLE PERIOD 10 7/21- 7/21									
PERIOD SAMPLE SIZE 442									
MALE	PERCENT	0.00	5.43	0.00	40.27	2.72	0.00	2.72	51.13
	NUMBERS	0	6,490	0	48,131	3,245	0	3,245	61,111
FEMALE	PERCENT	0.00	.91	0.00	40.95	2.94	0.00	4.07	48.87
	NUMBERS	0	1,082	0	48,943	3,515	0	4,867	58,407
SEXES COMBINED	PERCENT	0.00	6.34	0.00	81.22	5.66	0.00	6.79	100.00
	NUMBERS	0	7,572	0	97,074	6,760	0	8,112	119,518
	STANDARD ERROR	0	1,393	0	2,223	1,316	0	1,432	
SAMPLE PERIOD 11 7/22- 7/22									
PERIOD SAMPLE SIZE 329									
MALE	PERCENT	0.00	4.86	0.00	39.82	.91	0.00	5.78	51.37
	NUMBERS	0	631	0	5,169	118	0	750	6,668
FEMALE	PERCENT	0.00	1.83	0.00	38.60	1.83	.30	6.08	48.63
	NUMBERS	0	237	0	5,011	237	39	789	6,313
SEXES COMBINED	PERCENT	0.00	6.69	0.00	78.42	2.73	.30	11.86	100.00
	NUMBERS	0	868	0	10,180	355	39	1,539	12,981
	STANDARD ERROR	0	180	0	295	117	40	232	
SAMPLE PERIOD 12 7/23- 7/23									
PERIOD SAMPLE SIZE 488									
MALE	PERCENT	0.00	6.35	0.00	40.98	1.02	0.00	4.30	52.66
	NUMBERS	0	1,203	0	7,761	194	0	815	9,973
FEMALE	PERCENT	0.00	3.69	0.00	37.71	2.05	0.00	3.89	47.34
	NUMBERS	0	699	0	7,141	388	0	737	8,965
SEXES COMBINED	PERCENT	0.00	10.04	0.00	78.69	3.07	0.00	8.20	100.00
	NUMBERS	0	1,902	0	14,902	582	0	1,552	18,938
	STANDARD ERROR	0	258	0	352	149	0	236	

-Continued-

Appendix Table C-2. Age and sex composition by date of the Central District drift net sockeye salmon harvest, Upper Cook Inlet, 1982, (continued).

		AGE GROUP							
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	TOTAL
SAMPLE PERIOD 13 7/24- 7/24									
PERIOD SAMPLE SIZE 361									
MALE	PERCENT	.28	3.68	0.00	38.78	1.39	0.00	4.16	48.20
	NUMBERS	347	4,513	0	48,595	1,736	0	5,207	60,398
FEMALE	PERCENT	0.00	1.94	0.00	45.15	.28	0.00	4.43	51.80
	NUMBERS	0	2,430	0	56,580	347	0	5,554	64,911
SEXES COMBINED	PERCENT	.28	5.54	0.00	83.93	1.66	0.00	8.59	100.00
	NUMBERS	347	6,943	0	105,175	2,083	0	10,761	125,309
	STANDARD ERROR	349	1,511	0	2,426	844	0	1,851	
SAMPLE PERIOD 14 7/25- 7/25									
PERIOD SAMPLE SIZE 185									
MALE	PERCENT	0.00	7.57	0.00	38.38	3.24	0.00	1.62	50.81
	NUMBERS	0	3,638	0	18,453	1,559	0	780	24,430
FEMALE	PERCENT	0.00	3.24	0.00	43.78	1.08	0.00	1.08	49.19
	NUMBERS	0	1,559	0	21,051	520	0	520	23,650
SEXES COMBINED	PERCENT	0.00	10.81	0.00	82.16	4.32	0.00	2.70	100.00
	NUMBERS	0	5,197	0	39,504	2,079	0	1,300	48,080
	STANDARD ERROR	0	1,101	0	1,358	721	0	575	
SAMPLE PERIOD 15 7/26- 7/26									
PERIOD SAMPLE SIZE 351									
MALE	PERCENT	.29	3.99	0.00	41.31	.29	0.00	3.70	49.57
	NUMBERS	185	2,588	0	26,803	185	0	2,403	32,164
FEMALE	PERCENT	0.00	2.28	0.00	43.30	1.14	0.00	3.70	50.43
	NUMBERS	0	1,479	0	28,097	739	0	2,403	32,718
SEXES COMBINED	PERCENT	.29	6.27	0.00	84.62	1.42	0.00	7.41	100.00
	NUMBERS	185	4,067	0	54,900	924	0	4,806	64,882
	STANDARD ERROR	187	841	0	1,252	411	0	909	

-Continued-

Appendix Table C-2. Age and sex composition by date of the Central District drift net sockeye salmon harvest, Upper Cook Inlet, 1982 (continued).

		AGE GROUP							
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	TOTAL
SAMPLE PERIOD 16 7/27- 7/27									
PERIOD SAMPLE SIZE 277									
MALE	PERCENT	0.00	5.42	0.00	52.71	.36	0.00	.36	58.85
	NUMBERS	0	860	0	8,369	57	0	57	9,343
FEMALE	PERCENT	0.00	1.81	0.00	37.18	.72	0.00	1.44	41.15
	NUMBERS	0	287	0	5,903	115	0	229	6,534
SEXES COMBINED	PERCENT	0.00	7.22	0.00	89.89	1.08	0.00	1.80	100.00
	NUMBERS	0	1,147	0	14,272	172	0	286	15,877
	STANDARD ERROR	0	248	0	289	99	0	128	
SAMPLE PERIOD 17 7/28- 7/28									
PERIOD SAMPLE SIZE 116									
MALE	PERCENT	0.00	3.45	0.00	37.07	4.31	0.00	7.76	52.59
	NUMBERS	0	597	0	6,415	746	0	1,343	9,101
FEMALE	PERCENT	0.00	2.59	0.00	31.89	1.72	0.00	11.21	47.41
	NUMBERS	0	448	0	5,520	298	0	1,940	8,206
SEXES COMBINED	PERCENT	0.00	6.04	0.00	68.96	6.03	0.00	18.97	100.00
	NUMBERS	0	1,045	0	11,935	1,044	0	3,283	17,307
	STANDARD ERROR	0	385	0	747	385	0	633	
SAMPLE PERIOD 18 7/29- 7/29									
PERIOD SAMPLE SIZE 179									
MALE	PERCENT	0.00	3.92	0.00	37.98	.56	0.00	6.70	49.16
	NUMBERS	0	273	0	2,647	39	0	467	3,426
FEMALE	PERCENT	0.00	2.80	0.00	39.66	0.00	0.00	8.38	50.84
	NUMBERS	0	195	0	2,764	0	0	584	3,543
SEXES COMBINED	PERCENT	0.00	6.72	0.00	77.64	.56	0.00	15.08	100.00
	NUMBERS	0	468	0	5,411	39	0	1,051	6,969
	STANDARD ERROR	0	131	0	218	39	0	187	

-Continued-

Appendix Table C-2. Age and sex composition by date of the Central District drift net sockeye salmon harvest, Upper Cook Inlet, 1982 (continued).

		AGE GROUP							
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	TOTAL
SAMPLE PERIOD 19 7/30- 9/29									
PERIOD SAMPLE SIZE 332									
MALE	PERCENT	0.00	5.12	.30	28.01	1.81	0.00	3.31	38.55
	NUMBERS	0	1,226	72	6,708	433	0	793	9,232
FEMALE	PERCENT	0.00	4.22	0.00	52.41	1.51	0.00	3.31	61.45
	NUMBERS	0	1,010	0	12,550	361	0	793	14,714
SEXES COMBINED	PERCENT	0.00	9.34	.30	80.42	3.32	0.00	6.62	100.00
	NUMBERS	0	2,236	72	19,258	794	0	1,586	23,946
	STANDARD ERROR	0	384	72	523	236	0	328	
PERIODS COMBINED									
SAMPLE SIZES COMBINED 7,364									
MALE	PERCENT	.03	4.46	.00	43.56	1.38	.07	3.46	52.97
	NUMBERS	532	93,901	72	916,275	29,070	1,575	72,748	1,114,173
FEMALE	PERCENT	0.00	2.09	0.00	40.16	.78	.10	3.90	47.03
	NUMBERS	0	43,929	0	844,814	16,451	2,031	82,031	989,256
SEXES COMBINED	PERCENT	.03	6.55	.00	83.72	2.16	.17	7.36	100.00
	NUMBERS	532	137,830	72	1,761,089	45,521	3,606	154,779	2,103,429
	STANDARD ERROR	396	8,368	72	12,794	4,816	1,611	9,223	

Appendix Table C-3. Age and sex composition by date of the Salamatof Beach set net sockeye salmon harvest, Upper Cook Inlet, 1982.

		AGE GROUP							
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	TOTAL
SAMPLE PERIOD 1 6/25- 7/ 5									
PERIOD SAMPLE SIZE 262									
MALE	PERCENT	.76	11.84	0.00	27.87	1.14	0.00	6.46	48.07
	NUMBERS	14	218	0	513	21	0	119	885
FEMALE	PERCENT	0.00	15.64	.38	23.68	4.18	0.00	8.04	51.93
	NUMBERS	0	288	7	436	77	0	148	956
SEXES COMBINED	PERCENT	.76	27.49	.38	51.55	5.32	0.00	14.50	100.00
	NUMBERS	14	506	7	949	98	0	267	1,841
	STANDARD ERROR	10	51	8	57	26	0	41	
SAMPLE PERIOD 2 7/ 9- 7/12									
PERIOD SAMPLE SIZE 395									
MALE	PERCENT	0.00	10.91	0.00	34.69	.99	0.00	3.82	50.40
	NUMBERS	0	177	0	563	16	0	62	818
FEMALE	PERCENT	1.79	6.35	.74	37.40	1.79	0.00	1.54	49.60
	NUMBERS	29	103	12	607	29	0	25	805
SEXES COMBINED	PERCENT	1.79	17.25	.74	72.09	2.77	0.00	5.36	100.00
	NUMBERS	29	280	12	1,170	45	0	87	1,623
	STANDARD ERROR	11	31	8	37	14	0	19	
SAMPLE PERIOD 3 7/16- 7/16									
PERIOD SAMPLE SIZE 243									
MALE	PERCENT	1.23	5.76	0.00	37.86	2.06	0.00	6.17	53.09
	NUMBERS	153	715	0	4,698	255	0	766	6,587
FEMALE	PERCENT	0.00	2.88	0.00	37.86	1.64	.41	4.12	46.91
	NUMBERS	0	357	0	4,698	204	51	511	5,821
SEXES COMBINED	PERCENT	1.23	8.64	0.00	75.73	3.70	.41	10.29	100.00
	NUMBERS	153	1,072	0	9,396	459	51	1,277	12,408
	STANDARD ERROR	88	225	0	342	151	51	243	

-Continued-

Appendix Table C-3. Age and sex composition by date of the Salamatof Beach set net sockeye salmon harvest, Upper Cook Inlet, 1982 (continued).

		AGE GROUP							
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	TOTAL
SAMPLE PERIOD 4 7/19- 7/19									
PERIOD SAMPLE SIZE 237									
MALE	PERCENT	0.00	1.69	0.00	49.37	0.00	0.00	5.06	56.12
	NUMBERS	0	1,586	0	46,406	0	0	4,759	52,751
FEMALE	PERCENT	0.00	.42	0.00	39.66	0.00	0.00	3.80	43.88
	NUMBERS	0	397	0	37,282	0	0	3,570	41,249
SEXES COMBINED	PERCENT	0.00	2.11	0.00	89.03	0.00	0.00	8.86	100.00
	NUMBERS	0	1,983	0	83,688	0	0	8,329	94,000
	STANDARD ERROR	0	880	0	1,913	0	0	1,739	
SAMPLE PERIOD 5 7/20- 7/22									
PERIOD SAMPLE SIZE 661									
MALE	PERCENT	0.00	1.51	0.00	43.57	.91	0.00	1.81	47.81
	NUMBERS	0	1,435	0	41,314	861	0	1,721	45,331
FEMALE	PERCENT	0.00	1.06	0.00	47.50	.30	0.00	3.33	52.19
	NUMBERS	0	1,004	0	45,045	287	0	3,156	49,492
SEXES COMBINED	PERCENT	0.00	2.57	0.00	91.07	1.21	0.00	5.14	100.00
	NUMBERS	0	2,439	0	86,359	1,148	0	4,877	94,823
	STANDARD ERROR	0	585	0	1,053	404	0	816	
SAMPLE PERIOD 6 7/23- 7/24									
PERIOD SAMPLE SIZE 225									
MALE	PERCENT	0.00	.89	0.00	31.56	0.00	0.00	4.89	37.33
	NUMBERS	0	462	0	16,398	0	0	2,540	19,400
FEMALE	PERCENT	0.00	.44	0.00	56.89	0.00	0.00	5.33	62.67
	NUMBERS	0	231	0	29,562	0	0	2,771	32,564
SEXES COMBINED	PERCENT	0.00	1.33	0.00	88.45	0.00	0.00	10.22	100.00
	NUMBERS	0	693	0	45,960	0	0	5,311	51,964
	STANDARD ERROR	0	398	0	1,110	0	0	1,052	

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Appendix Table C-3. Age and sex composition by date of the Salamatof Beach set net sockeye salmon harvest, Upper Cook Inlet, 1982 (continued).

		AGE GROUP							
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	TOTAL
SAMPLE PERIOD 7 7/25- 7/26									
PERIOD SAMPLE SIZE 233									
MALE	PERCENT	0.00	2.15	0.00	41.20	0.00	0.00	7.30	50.64
	NUMBERS	0	1,627	0	31,238	0	0	5,532	38,397
FEMALE	PERCENT	0.00	1.29	0.00	43.35	.86	0.00	3.86	49.36
	NUMBERS	0	976	0	32,865	651	0	2,929	37,421
SEXES COMBINED	PERCENT	0.00	3.43	0.00	84.55	.86	0.00	11.16	100.00
	NUMBERS	0	2,603	0	64,103	651	0	8,461	75,818
	STANDARD ERROR	0	906	0	1,800	460	0	1,568	
SAMPLE PERIOD 8 7/27- 8/15									
PERIOD SAMPLE SIZE 365									
MALE	PERCENT	.27	6.03	0.00	33.97	1.92	0.00	5.75	47.95
	NUMBERS	171	3,765	0	21,219	1,198	0	3,594	29,947
FEMALE	PERCENT	0.00	2.19	0.00	42.47	2.19	0.00	5.20	52.05
	NUMBERS	0	1,369	0	26,524	1,369	0	3,251	32,513
SEXES COMBINED	PERCENT	.27	8.22	0.00	76.44	4.11	0.00	10.96	100.00
	NUMBERS	171	5,134	0	47,743	2,567	0	6,845	62,460
	STANDARD ERROR	170	900	0	1,390	650	0	1,023	
PERIODS COMBINED									
SAMPLE SIZES COMBINED 2,621									
MALE	PERCENT	.09	2.53	0.00	41.11	.60	0.00	4.83	49.15
	NUMBERS	338	9,985	0	162,349	2,351	0	19,093	194,116
FEMALE	PERCENT	.01	1.20	.00	44.82	.66	.01	4.14	50.85
	NUMBERS	29	4,725	19	177,019	2,617	51	16,361	200,821
SEXES COMBINED	PERCENT	.09	3.72	.00	85.93	1.26	.01	8.98	100.00
	NUMBERS	367	14,710	19	339,368	4,968	51	35,454	394,937
	STANDARD ERROR	192	1,720	10	3,360	906	51	2,891	

Appendix Table C-4. Age and sex composition by date of the Kalifonsky Beach set net sockeye salmon harvest, Upper Cook Inlet, 1982.

		AGE GROUP								
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	2.4	TOTAL
SAMPLE PERIOD 1 6/25- 7/ 9										
PERIOD SAMPLE SIZE 709										
MALE	PERCENT	.15	10.30	0.00	40.61	1.97	0.00	9.44	.15	62.6
	NUMBERS	9	626	0	2,468	120	0	574	9	3,806
FEMALE	PERCENT	0.00	3.52	0.00	26.52	1.69	0.00	5.64	0.00	37.3
	NUMBERS	0	214	0	1,612	103	0	343	0	2,272
SEXES COMBINED	PERCENT	.15	13.82	0.00	67.13	3.67	0.00	15.09	.15	100.0
	NUMBERS	9	840	0	4,080	223	0	917	9	6,078
	STANDARD ERROR	9	79	0	108	43	0	82	9	
SAMPLE PERIOD 2 7/12- 7/16										
PERIOD SAMPLE SIZE 463										
MALE	PERCENT	0.00	10.37	0.00	42.33	2.16	0.00	2.81	0.00	57.6
	NUMBERS	0	2,864	0	11,692	597	0	776	0	15,929
FEMALE	PERCENT	0.00	4.11	0.00	33.26	1.30	.22	3.46	0.00	42.3
	NUMBERS	0	1,134	0	9,186	358	60	955	0	11,693
SEXES COMBINED	PERCENT	0.00	14.47	0.00	75.58	3.46	.22	6.27	0.00	100.0
	NUMBERS	0	3,998	0	20,878	955	60	1,731	0	27,622
	STANDARD ERROR	0	453	0	553	235	61	312	0	
SAMPLE PERIOD 3 7/19- 7/20										
PERIOD SAMPLE SIZE 456										
MALE	PERCENT	0.00	8.33	0.00	39.69	2.85	0.00	1.97	0.00	52.8
	NUMBERS	0	3,681	0	17,532	1,259	0	872	0	23,344
FEMALE	PERCENT	0.00	6.58	0.00	35.52	3.29	0.00	1.75	0.00	47.1
	NUMBERS	0	2,906	0	15,691	1,453	0	775	0	20,825
SEXES COMBINED	PERCENT	0.00	14.91	0.00	75.22	6.14	0.00	3.73	0.00	100.0
	NUMBERS	0	6,587	0	33,223	2,712	0	1,647	0	44,169
	STANDARD ERROR	0	738	0	894	498	0	393	0	

-Continued-

Appendix Table C-4. Age and sex composition by date of the Kalifonsky Beach set net sockeye salmon harvest, Upper Cook Inlet, 1982 (continued).

		AGE GROUP								
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	2.4	TOTAL
SAMPLE PERIOD 4 7/21- 7/22										
PERIOD SAMPLE SIZE 236										
MALE	PERCENT	0.00	5.51	0.00	46.18	0.85	0.00	3.39	0.00	55.93
	NUMBERS	0	2,174	0	18,228	334	0	1,338	0	22,074
FEMALE	PERCENT	0.00	3.81	0.00	37.29	1.69	0.00	1.27	0.00	44.07
	NUMBERS	0	1,505	0	14,715	669	0	502	0	17,391
SEXES COMBINED	PERCENT	0.00	9.32	0.00	83.47	2.54	00.0	4.66	0.00	100.00
	NUMBERS	0	3,679	0	32,943	1,003	0	1,840	0	39,465
	STANDARD ERROR	0	749	0	957	406	0	543	0	
SAMPLE PERIOD 5 7/23- 7/24										
PERIOD SAMPLE SIZE 224										
MALE	PERCENT	0.00	8.48	0.00	35.71	3.13	0.00	3.13	0.00	50.45
	NUMBERS	0	4,348	0	18,306	1,602	0	1,602	0	25,858
FEMALE	PERCENT	0.00	6.25	0.00	37.50	4.46	0.00	1.34	0.00	49.55
	NUMBERS	0	3,204	0	19,222	2,288	0	686	0	25,400
SEXES COMBINED	PERCENT	0.00	14.73	0.00	73.21	7.59	00.0	4.47	0.00	100.00
	NUMBERS	0	7,552	0	37,528	3,890	0	2,288	0	51,258
	STANDARD ERROR	0	1,217	0	1,521	910	0	710	0	
SAMPLE PERIOD 6 7/25- 7/26										
PERIOD SAMPLE SIZE 185										
MALE	PERCENT	0.00	10.81	0.00	27.57	2.70	0.00	1.62	0.00	42.70
	NUMBERS	0	5,010	0	12,775	1,252	0	751	0	19,788
FEMALE	PERCENT	0.00	13.51	0.00	34.06	5.41	0.00	4.32	0.00	57.30
	NUMBERS	0	6,262	0	15,779	2,505	0	2,004	0	26,550
SEXES COMBINED	PERCENT	0.00	24.32	0.00	61.63	8.11	00.0	5.94	0.00	100.00
	NUMBERS	0	11,272	0	28,554	3,757	0	2,755	0	46,338
	STANDARD ERROR	0	1,466	0	1,662	933	0	808	0	

-Continued-

Appendix Table C-4. Age and sex composition by date of the Kalifonsky Beach set net sockeye salmon harvest, Upper Cook Inlet, 1982 (continued).

		AGE GROUP								
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	2.4	TOTAL
SAMPLE PERIOD 7 7/27- 8/15										
PERIOD SAMPLE SIZE 499										
MALE	PERCENT	0.20	11.22	0.20	33.67	4.21	0.20	4.41	0.00	54.11
	NUMBERS	84	4,683	84	14,047	1,756	84	1,840	0	22,578
FEMALE	PERCENT	0.00	11.62	0.00	26.05	5.41	0.00	2.81	0.00	45.89
	NUMBERS	0	4,850	0	10,871	2,258	0	1,171	0	19,150
SEXES COMBINED	PERCENT	0.20	22.84	0.20	59.72	9.62	0.20	7.22	0.00	100.00
	NUMBERS	84	9,533	84	24,918	4,014	84	3,011	0	41,728
	STANDARD ERROR	84	785	84	918	552	84	484	0	
PERIODS COMBINED										
PERIOD SAMPLE SIZE										
MALE	PERCENT	0.04	9.11	0.03	37.04	2.70	0.03	3.02	0.00	51.97
	NUMBERS	93	23,386	84	95,048	6,920	84	7,753	9	133,377
FEMALE	PERCENT	0.00	7.82	0.00	33.93	3.75	0.02	2.51	0.00	48.03
	NUMBERS	0	20,075	0	87,076	9,634	60	6,436	0	123,281
SEXES COMBINED	PERCENT	0.04	16.93	0.03	70.97	6.45	0.05	5.53	0.00	100.00
	NUMBERS	93	43,461	84	182,124	16,554	144	14,189	9	256,658
	STANDARD ERROR	85	2,358	84	2,820	1,572	103	1,394	9	

Appendix Table C-5. Age and sex composition by date of the Cohoe/Ninilchik Beach set net sockeye salmon harvest, Upper Cook Inlet, 1982.

		AGE GROUP						
		1.1	1.2	1.3	2.2	1.4	2.3	TOTAL
SAMPLE PERIOD 1 6/25- 6/28								
PERIOD SAMPLE SIZE 572								
MALE	PERCENT	.18	6.99	41.42	1.75	.18	13.29	63.81
	NUMBERS	16	622	3,687	156	16	1,183	5,680
FEMALE	PERCENT	0.00	2.27	22.56	1.92	0.00	9.44	36.19
	NUMBERS	0	202	2,008	171	0	840	3,221
SEXES COMBINED	PERCENT	.18	9.26	63.98	3.67	.18	22.73	100.00
	NUMBERS	16	824	5,695	327	16	2,023	8,901
	STANDARD ERROR	16	108	179	71	16	157	
SAMPLE PERIOD 2 7/ 2- 7/ 5								
PERIOD SAMPLE SIZE 540								
MALE	PERCENT	0.00	10.00	38.33	2.22	0.00	5.93	56.48
	NUMBERS	0	2,023	7,755	450	0	1,199	11,427
FEMALE	PERCENT	0.00	6.67	28.88	2.59	0.00	5.37	43.52
	NUMBERS	0	1,349	5,844	525	0	1,087	8,805
SEXES COMBINED	PERCENT	0.00	16.67	67.22	4.82	0.00	11.30	100.00
	NUMBERS	0	3,372	13,599	975	0	2,286	20,232
	STANDARD ERROR	0	325	410	187	0	276	
SAMPLE PERIOD 3 7/ 9- 7/ 9								
PERIOD SAMPLE SIZE 264								
MALE	PERCENT	.38	12.12	28.79	2.65	0.00	2.65	46.59
	NUMBERS	66	2,125	5,047	465	0	465	8,168
FEMALE	PERCENT	.38	10.23	34.85	2.27	0.00	5.68	53.41
	NUMBERS	66	1,793	6,110	398	0	996	9,363
SEXES COMBINED	PERCENT	.75	22.35	63.64	4.92	0.00	8.33	100.00
	NUMBERS	132	3,918	11,157	863	0	1,461	17,531
	STANDARD ERROR	94	451	521	234	0	299	

-Continued-

Appendix Table C-5. Age and sex composition by date of the Cohoe/Ninilchik Beach set net sockeye salmon harvest, Upper Cook Inlet, 1982 (continued).

		AGE GROUP						
		1.1	1.2	1.3	2.3	1.4	2.4	TOTAL
SAMPLE PERIOD 4 7/12- 7/12								
PERIOD SAMPLE SIZE 300								
MALE	PERCENT	.33	17.00	33.00	3.67	0.00	3.00	57.00
	NUMBERS	65	3,314	6,432	715	0	585	11,111
FEMALE	PERCENT	0.00	7.00	31.00	2.33	0.00	2.67	43.00
	NUMBERS	0	1,365	6,042	455	0	520	8,382
SEXES COMBINED	PERCENT	.33	24.00	63.99	6.00	0.00	5.67	100.00
	NUMBERS	65	4,679	12,474	1,170	0	1,105	19,493
	STANDARD ERROR	65	482	542	268	0	261	
SAMPLE PERIOD 5 7/16- 7/17								
PERIOD SAMPLE SIZE 558								
MALE	PERCENT	.36	14.16	36.20	2.15	0.00	3.23	56.09
	NUMBERS	116	4,600	11,764	699	0	1,048	18,227
FEMALE	PERCENT	0.00	4.48	34.41	1.79	0.00	3.23	43.91
	NUMBERS	0	1,456	11,181	582	0	1,048	14,267
SEXES COMBINED	PERCENT	.36	18.64	70.61	3.94	0.00	6.45	100.00
	NUMBERS	116	6,056	22,945	1,281	0	2,096	32,494
	STANDARD ERROR	83	537	628	268	0	339	
SAMPLE PERIOD 6 7/18- 7/19								
PERIOD SAMPLE SIZE 539								
MALE	PERCENT	.56	13.54	32.84	.74	0.00	2.60	50.28
	NUMBERS	275	6,693	16,229	367	0	1,284	24,848
FEMALE	PERCENT	0.00	9.65	34.32	2.97	0.00	2.78	49.72
	NUMBERS	0	4,768	16,962	1,467	0	1,375	24,572
SEXES COMBINED	PERCENT	.56	23.19	67.16	3.71	0.00	5.38	100.00
	NUMBERS	275	11,461	33,191	1,834	0	2,659	49,420
	STANDARD ERROR	159	900	1,001	403	0	481	

-Continued-

Appendix Table C-5. Age and sex composition by date of the Cohoe/Ninilchik Beach set net sockeye salmon harvest, Upper Cook Inlet, 1982 (continued).

		AGE GROUP						
		1.1	1.2	1.3	2.3	1.4	2.4	TOTAL
SAMPLE PERIOD 7 7/20- 7/22								
PERIOD SAMPLE SIZE 403								
MALE	PERCENT	0.00	13.65	37.72	3.22	0.00	5.21	59.80
	NUMBERS	0	7,410	20,479	1,751	0	2,829	32,469
FEMALE	PERCENT	0.00	5.21	29.53	1.99	0.00	3.47	40.20
	NUMBERS	0	2,829	16,033	1,078	0	1,886	21,826
SEXES COMBINED	PERCENT	0.00	18.86	67.25	5.21	0.00	8.68	100.00
	NUMBERS	0	10,239	36,512	2,829	0	4,715	54,295
	STANDARD ERROR	0	1,060	1,271	602	0	763	
SAMPLE PERIOD 8 7/23- 7/24								
PERIOD SAMPLE SIZE 172								
MALE	PERCENT	0.00	11.05	25.00	1.74	0.00	1.74	39.53
	NUMBERS	0	4,924	11,145	777	0	777	17,623
FEMALE	PERCENT	0.00	14.53	36.05	6.98	0.00	2.91	60.47
	NUMBERS	0	6,479	16,068	3,110	0	1,296	26,953
SEXES COMBINED	PERCENT	0.00	25.58	61.05	8.72	0.00	4.65	100.00
	NUMBERS	0	11,403	27,213	3,887	0	2,073	44,576
	STANDARD ERROR	0	1,488	1,663	962	0	718	
SAMPLE PERIOD 9 7/25- 7/26								
PERIOD SAMPLE SIZE 126								
MALE	PERCENT	0.00	19.05	33.33	8.73	0.00	.79	61.90
	NUMBERS	0	9,302	16,277	4,263	0	388	30,230
FEMALE	PERCENT	0.00	8.73	23.02	5.56	0.00	.79	38.10
	NUMBERS	0	4,263	11,239	2,713	0	388	18,603
SEXES COMBINED	PERCENT	0.00	27.78	56.35	14.29	0.00	1.59	100.00
	NUMBERS	0	13,565	27,516	6,976	0	776	48,833
	STANDARD ERROR	0	1,957	2,167	1,529	0	547	

-Continued-

Appendix Table C-5. Age and sex composition by date of the Cohoe/Ninilchik Beach set net sockeye salmon harvest, Upper Cook Inlet, 1982 (continued).

		AGE GROUP						
		1.1	1.2	1.3	2.3	1.4	2.4	TOTAL
SAMPLE PERIOD 10 7/27- 8/15								
PERIOD SAMPLE SIZE 308								
MALE	PERCENT	.65	10.71	37.34	2.60	0.00	2.27	53.57
	NUMBERS	156	2,577	8,981	625	0	547	12,886
FEMALE	PERCENT	0.00	11.36	28.25	5.20	0.00	1.62	46.43
	NUMBERS	0	2,733	6,794	1,250	0	390	11,167
SEXES COMBINED	PERCENT	.65	22.08	65.58	7.80	0.00	3.90	100.00
	NUMBERS	156	5,310	15,775	1,875	0	937	24,053
	STANDARD ERROR	111	570	653	369	0	266	
PERIODS COMBINED								
SAMPLE SIZES COMBINED 3,782								
MALE	PERCENT	.22	13.63	33.70	3.21	.01	3.22	53.99
	NUMBERS	694	43,590	107,796	10,268	16	10,305	172,669
FEMALE	PERCENT	.02	8.52	30.73	3.67	0.00	3.07	46.01
	NUMBERS	66	27,237	98,281	11,749	0	9,826	147,159
SEXES COMBINED	PERCENT	.24	22.15	64.43	6.88	.01	6.29	100.00
	NUMBERS	760	70,827	206,077	22,017	16	20,131	319,828
	STANDARD ERROR	240	3,023	3,414	2,040	16	1,439	

Appendix Table C-6. Age and sex composition by date of the Northern District east-side set net sockeye salmon harvest, Upper Cook Inlet, 1982.

		AGE GROUP						
		1.1	1.2	2.1	1.3	2.2	2.3	TOTAL
SAMPLE PERIOD 1 6/25- 7/12								
PERIOD SAMPLE SIZE 277								
MALE	PERCENT	2.18	26.66	0.00	9.05	3.24	2.18	43.30
	NUMBERS	45	551	0	187	67	45	895
FEMALE	PERCENT	6.48	24.58	0.00	17.32	5.42	2.90	56.70
	NUMBERS	134	508	0	358	112	60	1,172
SEXES COMBINED	PERCENT	8.66	51.23	0.00	26.37	8.66	5.08	100.00
	NUMBERS	179	1,059	0	545	179	105	2,067
	STANDARD ERROR	35	63	0	55	35	28	
SAMPLE PERIOD 2 7/16- 7/19								
PERIOD SAMPLE SIZE 210								
MALE	PERCENT	0.00	9.53	0.00	43.81	2.86	3.33	59.53
	NUMBERS	0	3,193	0	14,686	958	1,117	19,954
FEMALE	PERCENT	0.00	3.81	0.00	31.90	1.43	3.33	40.47
	NUMBERS	0	1,277	0	10,695	479	1,117	13,568
SEXES COMBINED	PERCENT	0.00	13.33	0.00	75.71	4.29	6.66	100.00
	NUMBERS	0	4,470	0	25,381	1,437	2,234	33,522
	STANDARD ERROR	0	789	0	995	470	579	
SAMPLE PERIOD 3 7/23- 7/23								
PERIOD SAMPLE SIZE 212								
MALE	PERCENT	0.00	8.96	0.00	37.25	5.19	2.84	54.24
	NUMBERS	0	616	0	2,561	357	195	3,729
FEMALE	PERCENT	.95	14.15	0.00	25.00	2.36	3.30	45.76
	NUMBERS	65	973	0	1,719	162	227	3,146
SEXES COMBINED	PERCENT	.95	23.11	0.00	62.25	7.55	6.14	100.00
	NUMBERS	65	1,589	0	4,280	519	422	6,875
	STANDARD ERROR	46	200	0	230	126	114	

-Continued-

Appendix Table C-6. Age and sex composition by date of the Northern District east-side set net sockeye salmon harvest, Upper Cook Inlet, 1982 (continued).

		AGE GROUP						
		1.1	1.2	2.1	1.3	2.2	2.3	TOTAL
SAMPLE PERIOD 4 7/26- 9/29								
PERIOD SAMPLE SIZE 223								
MALE	PERCENT	2.69	8.96	.45	34.53	2.24	2.24	51.12
	NUMBERS	233	776	39	2,989	194	194	4,425
FEMALE	PERCENT	0.00	13.45	0.00	30.05	2.69	2.69	48.88
	NUMBERS	0	1,164	0	2,601	233	233	4,231
SEXES COMBINED	PERCENT	2.69	22.41	.45	64.58	4.93	4.93	100.00
	NUMBERS	233	1,940	39	5,590	427	427	8,656
	STANDARD ERROR	94	243	39	278	126	126	
PERIODS COMBINED								
SAMPLE SIZES COMBINED 922								
MALE	PERCENT	.54	10.05	.08	39.95	3.08	3.03	56.74
	NUMBERS	278	5,136	39	20,423	1,576	1,551	29,003
FEMALE	PERCENT	.39	7.67	0.00	30.07	1.93	3.20	43.26
	NUMBERS	199	3,922	0	15,373	986	1,637	22,117
SEXES COMBINED	PERCENT	.93	17.72	.08	70.02	5.01	6.24	100.00
	NUMBERS	477	9,058	39	35,796	2,562	3,188	51,120
	STANDARD ERROR	111	851	39	1,060	504	604	

Appendix Table C-7. Age and sex composition by date of the Northern District west-side set net sockeye salmon harvest, Upper Cook Inlet, 1982.

		AGE GROUP								
		1.1	1.2	2.1	1.3	2.2	3.1	1.4	2.3	TOTAL
SAMPLE PERIOD 1 6/25- 7/12										
PERIOD SAMPLE SIZE 52										
MALE	PERCENT	0.00	9.62	0.00	23.17	7.65	0.00	0.00	7.65	48.09
	NUMBERS	0	88	0	212	70	0	0	70	440
FEMALE	PERCENT	1.97	13.44	0.00	28.74	1.97	0.00	0.00	5.79	51.91
	NUMBERS	18	123	0	263	18	0	0	53	475
SEXES COMBINED	PERCENT	1.97	23.06	0.00	51.91	9.62	0.00	0.00	13.44	100.00
	NUMBERS	18	211	0	475	88	0	0	123	915
	STANDARD ERROR	18	54	0	65	38	0	0	44	
SAMPLE PERIOD 2 7/16- 7/16										
PERIOD SAMPLE SIZE 218										
MALE	PERCENT	.92	10.09	.46	39.45	4.59	0.00	0.00	3.67	59.18
	NUMBERS	167	1,836	83	7,177	835	0	0	668	10,766
FEMALE	PERCENT	0.00	5.50	0.00	27.98	2.75	0.00	0.00	4.59	40.82
	NUMBERS	0	1,001	0	5,090	501	0	0	835	7,427
SEXES COMBINED	PERCENT	.92	15.59	.46	67.43	7.34	0.00	0.00	8.26	100.00
	NUMBERS	167	2,837	83	12,267	1,336	0	0	1,503	18,193
	STANDARD ERROR	118	449	84	579	322	0	0	340	
SAMPLE PERIOD 3 7/19- 7/19										
PERIOD SAMPLE SIZE 228										
MALE	PERCENT	0.00	7.02	0.00	46.49	0.00	0.00	.44	.88	54.82
	NUMBERS	0	1,655	0	10,967	0	0	103	207	12,932
FEMALE	PERCENT	0.00	3.95	0.00	38.16	0.00	.44	0.00	2.63	45.18
	NUMBERS	0	931	0	9,001	0	103	0	621	10,656
SEXES COMBINED	PERCENT	0.00	10.96	0.00	84.65	0.00	.44	.44	3.51	100.00
	NUMBERS	0	2,586	0	19,968	0	103	103	828	23,588
	STANDARD ERROR	0	490	0	565	0	104	104	289	

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Appendix Table C-7. Age and sex composition by date of the Northern District west-side set net sockeye salmon harvest, Upper Cook Inlet, 1982 (continued).

		AGE GROUP								
		1.1	1.2	2.1	1.3	2.2	3.1	1.4	2.3	TOTAL
SAMPLE PERIOD 4 7/23- 9/29										
PERIOD SAMPLE SIZE 187										
MALE	PERCENT	1.07	9.09	0.00	31.55	1.60	0.00	.54	3.21	47.06
	NUMBERS	259	2,204	0	7,649	389	0	130	778	11,409
FEMALE	PERCENT	.54	9.09	0.00	39.57	.54	0.00	0.00	3.21	52.94
	NUMBERS	130	2,204	0	9,593	130	0	0	778	12,835
SEXES COMBINED	PERCENT	1.60	18.18	0.00	71.12	2.14	0.00	.54	6.42	100.00
	NUMBERS	389	4,408	0	17,242	519	0	130	1,556	24,244
	STANDARD ERROR	224	686	0	806	258	0	131	436	
PERIODS COMBINED										
SAMPLE SIZES COMBINED 685										
MALE	PERCENT	.64	8.64	.12	38.85	1.93	0.00	.35	2.57	53.10
	NUMBERS	426	5,783	83	26,005	1,294	0	233	1,723	35,547
FEMALE	PERCENT	.22	6.36	0.00	35.77	.97	.15	0.00	3.42	46.90
	NUMBERS	148	4,259	0	23,947	649	103	0	2,287	31,393
SEXES COMBINED	PERCENT	.86	15.00	.12	74.62	2.90	.15	.35	5.99	100.00
	NUMBERS	574	10,042	83	49,952	1,943	103	233	4,010	66,940
	STANDARD ERROR	253	956	84	1,144	414	104	165	625	

Appendix Table C-8. Age and sex composition by date of the Kalgin Island set net sockeye salmon harvest, Upper Cook Inlet, 1982.

		AGE GROUP							
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	TOTAL
SAMPLE PERIOD 1 6/25- 7/ 5									
PERIOD SAMPLE SIZE 147									
MALE	PERCENT	0.00	5.45	0.00	55.78	3.40	0.00	10.88	75.51
	NUMBERS	0	445	0	4,554	278	0	888	6,165
FEMALE	PERCENT	0.00	2.04	0.00	20.40	.68	0.00	1.36	24.49
	NUMBERS	0	167	0	1,665	56	0	111	1,999
SEXES COMBINED	PERCENT	0.00	7.49	0.00	76.18	4.09	0.00	12.24	100.00
	NUMBERS	0	612	0	6,219	334	0	999	8,164
	STANDARD ERROR	0	178	0	288	134	0	222	
SAMPLE PERIOD 2 7/ 9- 7/16									
PERIOD SAMPLE SIZE 624									
MALE	PERCENT	0.00	13.46	0.00	32.22	6.57	.16	7.05	59.46
	NUMBERS	0	844	0	2,020	412	10	442	3,728
FEMALE	PERCENT	0.00	6.09	.16	26.44	4.00	.16	3.68	40.54
	NUMBERS	0	382	10	1,658	251	10	231	2,542
SEXES COMBINED	PERCENT	0.00	19.55	.16	58.66	10.57	.32	10.73	100.00
	NUMBERS	0	1,226	10	3,678	663	20	673	6,270
	STANDARD ERROR	0	100	11	124	78	15	78	
SAMPLE PERIOD 3 7/19- 7/24									
PERIOD SAMPLE SIZE 311									
MALE	PERCENT	.32	6.43	0.00	30.55	5.47	0.00	5.79	48.55
	NUMBERS	40	805	0	3,826	685	0	725	6,081
FEMALE	PERCENT	0.00	3.86	0.00	34.09	5.79	0.00	7.71	51.45
	NUMBERS	0	483	0	4,269	725	0	966	6,443
SEXES COMBINED	PERCENT	.32	10.28	0.00	64.64	11.26	0.00	13.50	100.00
	NUMBERS	40	1,288	0	8,095	1,410	0	1,691	12,524
	STANDARD ERROR	41	217	0	341	225	0	244	

-Continued-

Appendix Table C-8. Age and sex composition by date of the Kalgin Island set net sockeye salmon harvest, Upper Cook Inlet, 1982 (continued).

		AGE GROUP							
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	TOTAL
SAMPLE PERIOD 4 7/26- 9/29									
PERIOD SAMPLE SIZE 304									
MALE	PERCENT	0.00	10.20	0.00	13.82	13.16	0.00	9.87	47.04
	NUMBERS	0	1,294	0	1,753	1,669	0	1,252	5,968
FEMALE	PERCENT	0.00	6.90	0.00	19.41	13.82	0.00	12.83	52.96
	NUMBERS	0	876	0	2,462	1,753	0	1,628	6,719
SEXES COMBINED	PERCENT	0.00	17.10	0.00	33.22	26.97	0.00	22.70	100.00
	NUMBERS	0	2,170	0	4,215	3,422	0	2,880	12,687
	STANDARD ERROR	0	275	0	344	324	0	306	
PERIODS COMBINED									
SAMPLE SIZES COMBINED 1,386									
MALE	PERCENT	.10	8.55	0.00	30.65	7.68	.03	8.34	55.35
	NUMBERS	40	3,388	0	12,153	3,044	10	3,307	21,942
FEMALE	PERCENT	0.00	4.81	.03	25.36	7.02	.02	7.41	44.65
	NUMBERS	0	1,908	10	10,054	2,785	10	2,936	17,703
SEXES COMBINED	PERCENT	.10	13.36	.03	56.01	14.70	.05	15.75	100.00
	NUMBERS	40	5,296	10	22,207	5,829	20	6,243	39,645
	STANDARD ERROR	41	405	11	576	423	15	456	

Appendix Table C-9. Age and sex composition by date of the Central District west-side set net sockeye salmon harvest, Upper Cook Inlet, 1982.

		AGE GROUP							
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	TOTAL
SAMPLE PERIOD 1 6/18- 6/28 PERIOD SAMPLE SIZE 805									
MALE	PERCENT	0.00	2.73	0.00	42.86	4.34	.12	11.81	61.86
	NUMBERS	0	164	0	2,569	260	7	708	3,708
FEMALE	PERCENT	0.00	1.12	0.00	25.96	1.75	0.00	9.31	38.14
	NUMBERS	0	67	0	1,556	105	0	558	2,286
SEXES COMBINED	PERCENT	0.00	3.85	0.00	68.82	6.09	.12	21.12	100.00
	NUMBERS	0	231	0	4,125	365	7	1,266	5,994
	STANDARD ERROR	0	41	0	98	51	8	87	
SAMPLE PERIOD 2 7/ 2- 7/12 PERIOD SAMPLE SIZE 411									
MALE	PERCENT	0.00	5.11	0.00	39.41	1.46	0.00	2.68	48.66
	NUMBERS	0	475	0	3,662	136	0	249	4,522
FEMALE	PERCENT	.25	1.46	0.00	46.22	0.00	0.00	3.41	51.34
	NUMBERS	23	136	0	4,295	0	0	317	4,771
SEXES COMBINED	PERCENT	.25	6.57	0.00	85.62	1.46	0.00	6.09	100.00
	NUMBERS	23	611	0	7,957	136	0	566	9,293
	STANDARD ERROR	23	114	0	162	56	0	110	
SAMPLE PERIOD 3 7/16- 7/23 PERIOD SAMPLE SIZE 173									
MALE	PERCENT	0.00	4.62	0.00	41.05	.58	0.00	6.36	52.60
	NUMBERS	0	321	0	2,853	40	0	442	3,656
FEMALE	PERCENT	0.00	1.74	0.00	44.50	0.00	0.00	1.15	47.40
	NUMBERS	0	121	0	3,093	0	0	80	3,294
SEXES COMBINED	PERCENT	0.00	6.36	0.00	85.55	.58	0.00	7.51	100.00
	NUMBERS	0	442	0	5,946	40	0	522	6,950
	STANDARD ERROR	0	130	0	187	41	0	140	

-Continued-

Appendix Table C-9. Age and sex composition by date of the Central District west-side set net sockeye salmon harvest, Upper Cook Inlet, 1982 (continued).

		AGE GROUP							
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	TOTAL
SAMPLE PERIOD 4 7/26- 9/29									
PERIOD SAMPLE SIZE 168									
MALE	PERCENT	0.00	19.64	.59	33.93	2.98	0.00	2.98	60.12
	NUMBERS	0	996	30	1,720	151	0	151	3,048
FEMALE	PERCENT	0.00	10.71	0.00	26.19	.59	0.00	2.39	39.88
	NUMBERS	0	543	0	1,328	30	0	121	2,022
SEXES COMBINED	PERCENT	0.00	30.36	.59	60.12	3.57	0.00	5.36	100.00
	NUMBERS	0	1,539	30	3,048	181	0	272	5,070
	STANDARD ERROR	0	181	31	193	73	0	84	
PERIODS COMBINED									
SAMPLE SIZES COMBINED 1,557									
MALE	PERCENT	0.00	7.16	.11	39.56	2.15	.03	5.68	54.69
	NUMBERS	0	1,956	30	10,804	587	7	1,550	14,934
FEMALE	PERCENT	.08	3.18	0.00	37.62	.49	0.00	3.94	45.31
	NUMBERS	23	867	0	10,272	135	0	1,076	12,373
SEXES COMBINED	PERCENT	.08	10.34	.11	77.18	2.64	.03	9.62	100.00
	NUMBERS	23	2,823	30	21,076	722	7	2,626	27,307
	STANDARD ERROR	23	253	31	328	112	8	217	

Appendix Table C-10. Length and weight composition of the Central District drift net sockeye salmon harvest, Upper Cook Inlet, 1982.

	AGE GROUP					
	1.2	1.3	2.2	1.4	2.3	TOTAL
MALES						
AV LENGTH	504.30	586.42	502.36	0.00	581.25	578.39
STD ERROR	7.44	1.54	9.30	0.00	3.98	2.36
SAMP SIZE	30	365	11	0	44	450
AV WEIGHT	2.11	3.46	1.94	0.00	3.21	3.31
STD ERROR	.09	.04	.13	0.00	.09	.05
SAMP SIZE	29	358	10	0	42	439
FEMALES						
AV LENGTH	500.54	567.09	510.12	581.00	563.51	561.67
STD ERROR	4.35	1.22	14.34	0.00	3.71	1.89
SAMP SIZE	28	372	8	1	47	456
AV WEIGHT	1.98	2.91	1.96	3.73	2.91	2.84
STD ERROR	.08	.03	.18	0.00	.07	.04
SAMP SIZE	27	356	8	1	46	438
SEXES COMBINED						
AV LENGTH	502.48	576.66	505.63	581.00	572.09	569.97
STD ERROR	5.95	1.38	11.42	0.00	3.84	2.13
SAMP SIZE	58	737	19	1	91	906
AV WEIGHT	2.05	3.18	1.95	3.73	3.06	3.07
STD ERROR	.09	.03	.15	0.00	.08	.04
SAMP SIZE	56	714	18	1	88	877

Appendix Table C-11. Length and weight composition of the Salamatof Beach set net sockeye salmon harvest, Upper Cook Inlet, 1982.

	AGE GROUP					
	1.1	1.2	1.3	2.2	2.3	TOTAL
MALES						
AV LENGTH	0.00	525.00	581.46	488.00	577.67	577.79
STD ERROR	0.00	0.00	5.73	0.00	12.18	6.31
SAMP SIZE	0	1	39	1	6	47
AV WEIGHT	0.00	2.78	3.51	1.98	3.41	3.45
STD ERROR	0.00	0.00	.13	0.00	.37	.15
SAMP SIZE	0	1	39	1	6	47
FEMALES						
AV LENGTH	343.00	515.00	570.17	481.00	574.54	560.36
STD ERROR	0.00	18.20	2.53	13.05	6.48	4.79
SAMP SIZE	1	7	60	3	13	84
AV WEIGHT	.62	2.19	3.08	1.80	2.95	2.91
STD ERROR	0.00	.25	.07	.21	.13	.10
SAMP SIZE	1	7	60	3	13	84
SEXES COMBINED						
AV LENGTH	343.00	516.25	574.62	482.75	575.53	566.61
STD ERROR	0.00	15.92	3.79	9.79	8.28	5.34
SAMP SIZE	1	8	99	4	19	131
AV WEIGHT	.62	2.26	3.25	1.85	3.10	3.10
STD ERROR	0.00	.22	.10	.16	.21	.12
SAMP SIZE	1	8	99	4	19	131

Appendix Table C-12. Length and weight composition of the Kalifonsky Beach set net sockeye salmon harvest, Upper Cook Inlet, 1982.

	AGE GROUP				
	1.2	1.3	2.2	2.3	TOTAL
MALES					
AV LENGTH	480.50	570.44	484.00	563.25	545.20
STD ERROR	10.15	4.69	7.16	11.84	6.81
SAMP SIZE	16	45	4	8	73
AV WEIGHT	1.71	3.12	1.68	2.61	2.68
STD ERROR	.12	.10	.10	.11	.11
SAMP SIZE	16	45	4	8	73
FEMALES					
AV LENGTH	486.17	552.43	474.75	569.00	543.18
STD ERROR	10.81	5.97	2.46	7.08	6.33
SAMP SIZE	6	47	4	7	64
AV WEIGHT	1.47	2.53	1.42	2.58	2.37
STD ERROR	.08	.08	.05	.11	.08
SAMP SIZE	6	47	4	7	64
SEXES COMBINED					
AV LENGTH	482.05	561.24	479.37	565.93	544.26
STD ERROR	10.33	5.34	4.81	9.62	6.58
SAMP SIZE	22	92	8	15	137
AV WEIGHT	1.64	2.82	1.55	2.60	2.53
STD ERROR	.11	.09	.08	.11	.09
SAMP SIZE	22	92	8	15	137

Appendix Table C-13. Length and weight composition of Cohoe/Ninilchik Beach set net sockeye salmon harvest, Upper Cook Inlet, 1982.

	AGE GROUP				
	1.2	2.2	1.3	2.3	TOTAL
MALES					
AV LENGTH	494.68	568.93	466.40	588.00	549.94
STD ERROR	10.78	3.94	4.49	10.38	5.89
SAMP SIZE	22	70	5	8	105
AV WEIGHT	2.02	3.06	1.59	3.26	2.79
STD ERROR	.17	.09	.06	.24	.11
SAMP SIZE	22	70	5	8	105
FEMALES					
AV LENGTH	489.93	550.46	497.78	559.71	535.32
STD ERROR	5.88	3.15	10.61	6.74	4.68
SAMP SIZE	15	56	9	7	87
AV WEIGHT	1.83	2.66	1.77	2.67	2.43
STD ERROR	.08	.06	.13	.12	.07
SAMP SIZE	15	56	9	7	87
SEXES COMBINED					
AV LENGTH	492.75	560.72	486.57	574.80	543.32
STD ERROR	8.79	3.59	8.42	8.68	5.34
SAMP SIZE	37	126	14	15	192
AV WEIGHT	1.94	2.88	1.71	2.98	2.62
STD ERROR	.13	.07	.10	.18	.10
SAMP SIZE	37	126	14	15	192

Appendix Table C-14. Length and weight composition of Northern District east-side set net sockeye salmon harvest, Upper Cook Inlet, 1982.

	AGE GROUP				
	1.2	1.3	2.2	2.3	TOTAL
MALES					
AV LENGTH	488.67	571.76	505.50	560.67	548.03
STD ERROR	19.14	9.63	35.50	25.37	15.20
SAMP SIZE	6	17	2	3	28
AV WEIGHT	1.75	3.14	2.08	2.77	2.73
STD ERROR	.22	.15	.64	.62	.25
SAMP SIZE	6	17	2	3	28
FEMALES					
AV LENGTH	483.00	560.82	515.33	558.25	533.16
STD ERROR	13.82	6.06	22.22	11.76	10.90
SAMP SIZE	12	22	6	4	44
AV WEIGHT	1.64	2.73	1.96	2.95	2.35
STD ERROR	.16	.12	.24	.38	.17
SAMP SIZE	12	22	6	4	44
SEXES COMBINED					
AV LENGTH	484.89	565.59	512.87	559.29	538.94
STD ERROR	15.59	7.62	25.54	17.59	12.57
SAMP SIZE	18	39	8	7	72
AV WEIGHT	1.68	2.91	1.99	2.87	2.50
STD ERROR	.18	.13	.34	.48	.20
SAMP SIZE	18	39	8	7	72

Appendix Table C-15. Length and weight composition of Northern District west-side set net sockeye salmon harvest, Upper Cook Inlet, 1982.

	AGE GROUP					
	1.1	1.2	1.3	2.2	2.3	TOTAL
MALES						
AV LENGTH	337.00	478.50	582.41	474.00	570.80	547.89
STD ERROR	0.00	11.32	7.66	0.00	20.02	9.94
SAMP SIZE	1	6	17	1	5	30
AV WEIGHT	0.00	1.72	3.52	1.72	3.18	3.03
STD ERROR	0.00	.18	.16	0.00	.38	.19
SAMP SIZE	0	6	17	1	5	29
FEMALES						
AV LENGTH	0.00	492.40	559.36	0.00	582.00	550.13
STD ERROR	0.00	12.46	4.55	0.00	7.46	6.81
SAMP SIZE	0	5	14	0	5	24
AV WEIGHT	0.00	1.85	2.73	0.00	2.95	2.59
STD ERROR	0.00	.11	.10	0.00	.15	.11
SAMP SIZE	0	5	14	0	5	24
SEXES COMBINED						
AV LENGTH	337.00	484.82	572.00	474.00	576.40	548.89
STD ERROR	0.00	11.84	6.26	0.00	13.74	8.55
SAMP SIZE	1	11	31	1	10	54
AV WEIGHT	0.00	1.78	3.16	1.72	3.07	2.83
STD ERROR	0.00	.15	.13	0.00	.27	.16
SAMP SIZE	0	11	31	1	10	53

Appendix Table C-16. Length and weight composition of Kalgin Island set net sockeye salmon harvest, Upper Cook Inlet, 1982.

	AGE GROUP				
	1.2	1.3	2.2	2.3	TOTAL
MALES					
AV LENGTH	502.43	568.57	503.14	555.82	546.46
STD ERROR	10.13	6.22	4.23	10.08	7.38
SAMP SIZE	7	23	7	11	48
AV WEIGHT	2.05	3.09	1.93	2.58	2.65
STD ERROR	.14	.14	.14	.19	.15
SAMP SIZE	7	22	7	11	47
FEMALES					
AV LENGTH	512.50	560.26	511.50	562.00	553.73
STD ERROR	9.50	5.21	1.50	2.00	5.03
SAMP SIZE	2	23	2	2	29
AV WEIGHT	2.30	2.47	1.94	2.60	2.43
STD ERROR	0.00	.08	.15	.48	.12
SAMP SIZE	1	18	2	2	23
SEXES COMBINED					
AV LENGTH	504.67	564.41	505.00	556.77	549.20
STD ERROR	9.99	5.71	3.62	8.84	6.50
SAMP SIZE	9	46	9	13	77
AV WEIGHT	2.11	2.78	1.93	2.58	2.57
STD ERROR	.12	.12	.14	.24	.14
SAMP SIZE	8	40	9	13	70

Appendix Table C-17. Length and weight composition of Central District west-side set net sockeye salmon harvest, Upper Cook Inlet, 1982.

	AGE GROUP				
	1.2	1.3	2.2	2.3	TOTAL
MALES					
AV LENGTH	477.00	563.40	508.40	550.32	552.62
STD ERROR	9.53	3.27	10.34	8.18	5.07
SAMP SIZE	7	75	5	25	112
AV WEIGHT	1.77	3.26	2.00	3.39	3.14
STD ERROR	.12	.09	.09	.17	.11
SAMP SIZE	3	32	3	13	51
FEMALES					
AV LENGTH	492.33	548.93	499.75	545.50	544.50
STD ERROR	19.70	2.30	10.33	4.30	3.66
SAMP SIZE	3	69	4	30	106
AV WEIGHT	2.17	2.94	0.00	3.03	2.94
STD ERROR	.17	.06	0.00	.18	.09
SAMP SIZE	2	32	0	9	43
SEXES COMBINED					
AV LENGTH	481.60	556.47	504.56	547.69	548.67
STD ERROR	12.58	2.80	10.34	6.07	4.39
SAMP SIZE	10	144	9	55	218
AV WEIGHT	1.89	3.11	2.00	3.19	3.05
STD ERROR	.14	.08	.09	.18	.10
SAMP SIZE	5	64	3	22	94

APPENDIX D

Run composition estimates of Upper Cook Inlet commercial harvests of sockeye salmon are reported by fishery and date in Appendix Tables D-1 through D-8.

Appendix Table D-1. Run composition estimates of sockeye salmon catches by age group and date for the Central District drift fishery, Upper Cook Inlet, 1982.

Date	System	1.1 %	1.1 Number	1.2 %	1.2 Number	2.1 %	2.1 Number	1.3 %	1.3 Number	2.2 %	2.2 Number	1.4 %	1.4 Number	2.3 %	2.3 Number	Total %	Total Number
6/25	Susitna	0	0	0	0	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Kenai	0	0	1.1	4	0	0	8.8	322	1.8	2	0	0	4.5	73	7.0	401
	Kasilof	0	0	98.5	334	0	0	90.5	3,312	98.1	123	0	0	95.1	1,544	92.4	5,313
	Crescent	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Fish	0	0	0.4	1	0	0	0.7	26	0.1	<1	0	0	0.4	7	0.6	34
	Total	0	0	100.0	339	0	0	100.0	3,660	100.0	125	0	0	100.0	1,624	100.0	5,748
6/28	Susitna	0	0	2.0	16	0	0	2.3	278	1.0	7	0	0	4.7	143	2.7	444
	Kenai	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace
	Kasilof	0	0	88.1	721	0	0	70.4	8,516	96.8	640	0	0	68.2	2,083	71.7	11,960
	Crescent	0	0	9.9	81	0	0	27.3	3,302	2.2	14	100.0	62	27.1	828	25.6	4,287
	Fish	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	0	0	100.0	818	0	0	100.0	12,096	100.0	661	100.0	62	100.0	3,054	100.0	16,691
7/02	Susitna	0	0	2.8	61	0	0	3.3	1,078	1.3	8	0	0	7.3	382	3.8	1,529
	Kenai	0	0	2.1	45	0	0	14.9	4,856	3.5	21	0	0	7.7	403	13.1	5,325
	Kasilof	0	0	93.2	2,021	0	0	77.7	25,321	94.8	567	0	0	81.6	4,270	79.3	32,179
	Crescent	0	0	0.8	17	0	0	2.3	750	0.2	1	0	0	2.5	131	2.2	899
	Fish	0	0	1.1	24	0	0	1.8	587	0.2	1	0	0	0.9	47	1.6	659
	Total	0	0	100.0	2,168	0	0	100.0	32,592	100.0	598	0	0	100.0	5,233	100.0	40,591
7/05	Susitna	0	0	2.1	55	0	0	2.1	1,101	1.0	16	0	0	5.0	292	2.3	1,464
	Kenai	0	0	4.6	120	0	0	27.6	14,630	7.7	124	71.4	354	15.4	898	25.4	16,126
	Kasilof	0	0	90.0	2,346	0	0	63.1	33,461	90.7	1,463	0	0	71.7	4,183	65.2	41,453
	Crescent	0	0	2.7	70	0	0	6.4	3,393	0.5	8	28.6	142	7.4	432	6.4	4,045
	Fish	0	0	0.6	16	0	0	0.8	424	0.1	2	0	0	0.5	29	0.7	471
	Total	0	0	100.0	2,607	0	0	100.0	53,009	100.0	1,163	100.0	496	100.0	5,834	100.0	63,559

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Appendix Table D-1. Run composition estimates of sockeye salmon catches by age group and date for the Central District drift fishery, Upper Cook Inlet, 1982 (continued).

Date	System	1.1 %	1.1 Number	1.2 %	1.2 Number	2.1 %	2.1 Number	1.3 %	1.3 Number	2.2 %	2.2 Number	1.4 %	1.4 Number	2.3 %	2.3 Number	Total %	Total Number
7/09	Susitna	0	0	2.5	311	0	0	2.2	2,998	1.1	38	0	0	7.4	712	2.5	4,059
	Kenai	0	0	7.7	957	0	0	40.9	55,898	12.4	424	0	0	3.3	318	35.5	57,597
	Kasilof	0	0	88.3	10,971	0	0	55.1	75,313	86.2	2,944	0	0	87.9	8,463	60.3	97,691
	Crescent	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Fish	0	0	1.5	186	0	0	1.8	2,460	0.3	10	0	0	1.4	135	1.7	2,791
	Total	0	0	100.0	12,425	0	0	100.0	136,669	100.0	3,416	0	0	100.0	9,628	100.0	162,138
7/12	Susitna	0	0	10.2	2,900	0	0	7.6	15,927	5.2	251	0	0	17.3	2,751	8.5	21,829
	Kenai	0	0	7.4	2,104	0	0	33.0	68,867	13.6	655	45.7	220	17.6	2,799	28.9	74,645
	Kasilof	0	0	69.9	19,877	0	0	36.7	76,522	78.3	3,774	0	0	39.9	6,346	41.2	106,519
	Crescent	0	0	12.5	3,555	0	0	22.7	47,373	2.9	140	54.3	262	25.2	4,008	21.4	55,338
	Fish	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	0	0	100.0	28,436	0	0	100.0	208,689	100.0	4,820	100.0	482	100.0	15,904	100.0	258,331
7/16	Susitna	0	0	7.2	1,585	0	0	4.5	21,635	3.2	235	0	0	12.6	5,942	5.3	29,397
	Kenai	0	0	15.4	3,389	0	0	57.4	276,108	24.7	1,812	86.7	909	37.3	17,591	53.7	299,809
	Kasilof	0	0	73.0	16,066	0	0	32.1	154,420	71.2	5,223	0	0	42.6	20,090	35.0	195,799
	Crescent	0	0	3.3	726	0	0	5.1	24,532	0.7	51	13.3	139	6.9	3,254	5.1	28,702
	Fish	0	0	1.1	242	0	0	0.9	4,329	0.2	15	0	0	0.6	283	0.9	4,869
	Total	0	0	100.0	22,008	0	0	100.0	481,024	100.0	7,336	100.0	1,048	100.0	47,160	100.0	558,576
7/19	Susitna	0	0	3.0	649	0	0	2.1	5,154	1.4	91	0	0	6.1	1,155	2.4	7,049
	Kenai	0	0	13.3	2,879	0	0	54.8	132,250	21.2	1,377	100.0	541	37.3	7,064	49.9	144,111
	Kasilof	0	0	78.3	16,947	0	0	38.2	92,103	76.4	4,961	0	0	53.2	10,076	43.0	124,087
	Crescent	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace
	Fish	0	0	5.4	1,169	0	0	4.9	11,825	1.0	65	0	0	3.4	644	4.7	13,703
	Total	0	0	100.0	21,644	0	0	100.0	241,332	100.0	6,494	100.0	541	100.0	18,939	100.0	288,950

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Appendix Table D-1. Run composition estimates of sockeye salmon catches by age group and date for the Central District drift fishery, Upper Cook Inlet, 1982 (continued).

Date	System	1.1 %	1.1 Number	1.2 %	1.2 Number	2.1 %	2.1 Number	1.3 %	1.3 Number	2.2 %	2.2 Number	1.4 %	1.4 Number	2.3 %	2.3 Number	Total %	Total Number
7/20	Susitna	0	0	4.7	749	0	0	2.6	5,742	2.2	124	0	0	7.8	1,024	3.0	7,639
	Kenai	0	0	19.5	3,108	0	0	63.9	140,201	27.2	1,530	87.3	819	44.8	5,881	59.4	151,539
	Kasilof	0	0	70.5	11,238	0	0	27.2	59,641	69.6	3,916	0	0	38.9	5,106	31.3	79,901
	Crescent	0	0	4.0	638	0	0	5.4	11,848	0.8	45	12.7	119	7.9	1,037	5.4	13,687
	Fish	0	0	1.3	207	0	0	0.9	1,975	0.2	11	0	0	0.6	79	0.9	2,272
	Total	0	0	100.0	15,940	0	0	100.0	219,407	100.0	5,626	100.0	938	100.0	13,127	100.0	255,038
7/21	Susitna	0	0	16.8	1,272	0	0	7.7	7,480	7.1	480	0	0	22.9	1,857	9.3	11,089
	Kenai	0	0	27.1	2,052	0	0	74.2	72,029	41.1	2,778	0	0	51.5	4,178	67.8	81,037
	Kasilof	0	0	56.1	4,248	0	0	18.1	17,565	51.8	3,502	0	0	25.6	2,077	22.9	27,392
	Crescent	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Fish	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	0	0	100.0	7,572	0	0	100.0	97,074	100.0	6,760	0	0	100.0	8,112	100.0	119,518
7/22	Susitna	0	0	21.7	188	0	0	7.1	723	8.9	32	0	0	23.3	358	10.0	1,301
	Kenai	0	0	43.1	374	0	0	83.9	8,541	63.1	224	100.0	39	64.2	988	78.3	10,166
	Kasilof	0	0	30.5	265	0	0	7.0	712	27.2	96	0	0	10.9	168	9.6	1,241
	Crescent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Fish	0	0	4.7	41	0	0	2.0	204	0.8	3	0	0	1.6	25	2.1	273
	Total	0	0	100.0	868	0	0	100.0	10,180	100.0	355	100.0	39	100.0	1,539	100.0	12,981
7/23	Susitna	0	0	68.1	1,295	0	0	32.1	4,784	45.1	263	0	0	66.9	1,038	39.0	7,380
	Kenai	0	0	22.1	420	0	0	61.9	9,224	52.1	303	0	0	30.1	467	55.0	10,414
	Kasilof	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Crescent	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Fish	0	0	9.8	187	0	0	6.0	894	2.8	16	0	0	3.0	47	6.0	1,144
	Total	0	0	100.0	1,902	0	0	100.0	14,902	100.0	582	0	0	100.0	1,552	100.0	18,938

-Continued-

Appendix Table D-1. Run composition estimates of sockeye salmon catches by age group and date for the Central District drift fishery, Upper Cook Inlet, 1982 (continued).

Date	System	1.1 %	1.1 Number	1.2 %	1.2 Number	2.1 %	2.1 Number	1.3 %	1.3 Number	2.2 %	2.2 Number	1.4 %	1.4 Number	2.3 %	2.3 Number	Total %	Total Number
7/24	Susitna	14.0	49	9.0	625	0	0	3.2	3,395	4.1	85	0	0	10.5	1,130	4.2	5,284
	Kenai	9.6	33	34.8	2,416	0	0	73.9	77,724	56.2	1,171	0	0	56.5	6,080	69.8	87,424
	Kasilof	2.4	8	36.3	2,520	0	0	9.1	9,542	35.7	744	0	0	14.2	1,528	11.5	14,342
	Crescent	0	0	11.3	785	0	0	9.8	10,307	2.3	48	0	0	15.7	1,689	10.2	12,829
	Fish	74.0	257	8.6	597	0	0	4.0	4,207	1.7	35	0	0	3.1	334	4.3	5,430
	Total	100.0	347	100.0	6,943	0	0	100.0	105,175	100.0	2,083	0	0	100.0	10,761	100.0	125,309
7/25	Susitna	0	0	11.4	592	0	0	6.0	2,352	4.9	102	0	0	17.7	230	6.8	3,276
	Kenai	0	0	22.3	1,159	0	0	69.6	27,495	33.9	705	0	0	48.0	624	62.4	29,983
	Kasilof	0	0	66.3	3,446	0	0	24.4	9,657	61.2	1,272	0	0	34.3	446	30.8	14,821
	Crescent	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Fish	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	0	0	100.0	5,197	0	0	100.0	39,504	100.0	2,079	0	0	100.0	1,300	100.0	48,080
7/26	Susitna	45.7	84	16.5	671	0	0	10.1	5,595	7.8	72	0	0	25.7	1,235	11.8	7,657
	Kenai	7.5	14	15.5	630	0	0	56.2	30,854	26.1	241	0	0	33.3	1,601	51.4	33,340
	Kasilof	46.8	87	63.6	2,587	0	0	27.2	14,883	65.2	603	0	0	32.9	1,581	30.4	19,741
	Crescent	0	0	4.4	179	0	0	6.5	3,568	0.9	8	0	0	8.1	389	6.4	4,144
	Fish	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	100.0	185	100.0	4,067	0	0	100.0	54,900	100.0	924	0	0	100.0	4,806	100.0	64,882
7/27	Susitna	0	0	28.4	326	0	0	6.7	956	10.8	19	0	0	23.5	67	8.6	1,368
	Kenai	0	0	65.1	747	0	0	91.3	13,030	88.1	151	0	0	74.8	214	89.1	14,142
	Kasilof	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Crescent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Fish	0	0	6.5	74	0	0	2.0	286	1.1	2	0	0	1.7	5	2.3	367
	Total	0	0	100.0	1,147	0	0	100.0	14,272	100.0	172	0	0	100.0	286	100.0	15,877

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Appendix Table D-1. Run composition estimates of sockeye salmon catches by age group and date for the Central District drift fishery, Upper Cook Inlet, 1982 (continued).

Date	System	1.1 %	1.1 Number	1.2 %	1.2 Number	2.1 %	2.1 Number	1.3 %	1.3 Number	2.2 %	2.2 Number	1.4 %	1.4 Number	2.3 %	2.3 Number	Total %	Total Number
7/28	Susitna	0	0	27.5	287	0	0	6.5	774	10.4	109	0	0	22.9	752	11.1	1,922
	Kenai	0	0	64.8	677	0	0	91.3	10,897	87.5	914	0	0	75.1	2,465	86.4	14,953
	Kasilof	0	0	1.2	13	0	0	0.2	25	1.0	10	0	0	0.3	10	0.3	58
	Crescent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Fish	0	0	6.5	68	0	0	2.0	239	1.1	11	0	0	1.7	56	2.2	374
	Total	0	0	100.0	1,045	0	0	100.0	11,935	100.0	1,044	0	0	100.0	3,283	100.0	17,307
7/29	Susitna	0	0	18.9	89	0	0	6.1	330	7.7	3	0	0	20.5	215	9.1	637
	Kenai	0	0	43.6	204	0	0	84.0	4,545	63.9	25	0	0	66.0	694	78.5	5,468
	Kasilof	0	0	30.4	142	0	0	6.9	373	27.1	11	0	0	11.1	117	9.2	643
	Crescent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Fish	0	0	7.1	33	0	0	3.0	163	1.3	<1	0	0	2.4	25	3.2	221
	Total	0	0	100.0	468	0	0	100.0	5,411	100.0	39	0	0	100.0	1,051	100.0	6,969
7/30	Susitna	0	0	44.2	353	100.0	26	13.0	895	20.2	57	0	0	39.0	221	18.1	1,552
	Kenai	0	0	48.0	384	0	0	84.0	5,787	78.2	221	0	0	58.9	335	78.6	6,727
	Kasilof	0	0	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Crescent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Fish	0	0	7.8	62	0	0	3.0	207	1.6	5	0	0	2.1	12	3.3	286
	Total	0	0	100.0	799	100.0	26	100.0	6,889	100.0	283	0	0	100.0	568	100.0	8,565
7/31 thru 9/08	Susitna	0	0	44.2	635	100.0	46	13.0	1,608	20.2	103	0	0	39.0	397	18.1	2,789
	Kenai	0	0	48.0	690	0	0	84.0	10,390	78.2	400	0	0	58.9	600	78.6	12,080
	Kasilof	0	0	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Crescent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Fish	0	0	7.8	112	0	0	3.0	371	1.6	8	0	0	2.1	21	3.3	512
	Total	0	0	100.0	1,437	100.0	46	100.0	12,369	100.0	511	0	0	100.0	1,018	100.0	15,381
Total	Susitna	25.0	133	9.2	12,659	100.0	72	4.7	82,805	4.6	2,095	0	0	12.9	19,901	5.6	117,665
	Kenai	8.8	47	16.2	22,359	0	0	54.7	963,648	28.7	13,078	79.9	2,882	34.4	53,273	50.2	1,055,287
	Kasilof	17.9	95	68.0	93,742	Trace	Trace	33.0	581,366	65.6	29,849	0	0	44.0	68,088	36.7	773,140
	Crescent	0	0	4.4	6,051	0	0	6.0	105,073	0.7	315	20.1	724	7.6	11,768	5.9	123,931
	Fish	48.3	257	2.2	3,019	0	0	1.6	28,197	0.4	184	0	0	1.1	1,749	1.6	33,406
	Total	100.0	532	100.0	137,830	100.0	72	100.0	1,761,089	100.0	45,521	100.0	3,606	100.0	154,779	100.0	2,103,429

Appendix Table D-2. Run composition estimates of sockeye salmon catches by age group and date for the Salamatof Beach set net fishery, Upper Cook Inlet, 1982.

Date	System	1.1 %	1.1 Numbers	1.2 %	1.2 Numbers	2.1 %	2.1 Numbers	1.3 %	1.3 Numbers	2.2 %	2.2 Numbers	1.4 %	1.4 Numbers	2.3 %	2.3 Number	Total %	Total Number
6/25	Susitna	93.0	13	70.1	355	100.0	7	28.3	269	39.7	39	0	0	62.8	168	46.2	851
thru	Kenai	7.0	1	29.9	151	0	0	71.7	680	60.3	59	0	0	37.2	99	53.8	990
7/05	Fish	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	100.0	14	100.0	506	100.0	7	100.0	949	100.0	98	0	0	100.0	267	100.0	1,841
7/09	Susitna	93.0	27	70.1	196	100.0	12	28.3	331	39.7	18	0	0	62.8	55	39.4	639
thru	Kenai	7.0	2	29.9	84	0	0	71.7	839	60.3	27	0	0	37.2	32	60.6	984
7/12	Fish	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	100.0	29	100.0	280	100.0	12	100.0	1,170	100.0	45	0	0	100.0	87	100.0	1,673
7/16	Susitna	93.0	142	70.1	751	0	0	28.3	2,659	39.7	182	0	0	62.8	802	36.6	4,536
	Kenai	7.0	11	29.9	321	0	0	71.7	6,737	60.3	277	100.0	51	37.2	475	63.4	7,872
	Fish	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	100.0	153	100.0	1,072	0	0	100.0	9,396	100.0	459	100.0	51	100.0	1,277	100.0	12,408
7/19	Susitna	0	0	42.1	835	0	0	10.9	9,122	0	0	0	0	34.4	2,865	13.6	12,822
	Kenai	0	0	57.9	1,148	0	0	89.1	74,566	0	0	0	0	65.6	5,464	86.4	81,178
	Fish	0	0	Trace	Trace	0	0	Trace	Trace	0	0	0	0	Trace	Trace	Trace	Trace
	Total	0	0	100.0	1,983	0	0	100.0	83,688	0	0	0	0	100.0	8,329	100.0	94,000
7/20	Susitna	0	0	27.9	680	0	0	6.1	5,268	9.8	113	0	0	21.8	1,063	7.6	7,124
thru	Kenai	0	0	72.1	1,759	0	0	93.9	81,091	90.2	1,035	0	0	78.2	3,814	92.4	87,699
7/22	Fish	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	0	0	100.0	2,439	0	0	100.0	86,359	100.0	1,148	0	0	100.0	4,877	100.0	94,823

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Appendix Table D-2. Run composition estimates of sockeye salmon catches by age group and date for the Salamatof Beach set net fishery, Upper Cook Inlet, 1982 (continued).

		1.1		1.2		2.1		1.3		2.2		1.4		2.3		Total	
Date	System	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Number	%	Number
7/23	Susitna	0	0	18 2	126	0	0	3.6	1.655	0	0	0	0	13 8	733	4 8	2 514
thru	Kenai	0	0	18 8	567	0	0	96 4	44.305	0	0	0	0	86.2	4.578	95 2	49.450
7/24	Fish	0	0	Trace	Trace	0	0	Trace	Trace	0	0	0	0	Trace	Trace	Trace	Trace
	Total	0	0	100.0	693	0	0	100.0	45 960	0	0	0	0	100.0	5.311	100.0	51,964
7/25	Susitna	0	0	6.7	174	0	0	1 2	769	2 0	13	0	0	4 9	415	1.8	1 371
thru	Kenai	0	0	93 3	2.429	0	0	98.8	63,334	98 0	638	0	0	95 1	8 046	98.2	74.447
7/26	Fish	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	0	0	100.0	2.603	0	0	100.0	64,103	100.0	651	0	0	100.0	8.461	100.0	75,818
7/27	Susitna	32 5	56	24 0	1 232	0	0	5 4	2 578	8 8	226	0	0	19.6	1.342	8 7	5 434
thru	Kenai	16.5	28	69.2	3 553	0	0	92 6	44.210	90.1	2.313	0	0	78 7	5 387	88 8	55.491
8/15	Fish	51.0	87	6 8	349	0	0	2 0	955	1 1	28	0	0	1 7	116	2.5	1 535
	Total	100.0	171	100.0	5.134	0	0	100.0	47.743	100.0	2.567	0	0	100.0	6.845	100.0	62,460
Total	Susitna	64 9	238	29 6	4 349	100 0	19	6 7	22.651	11 9	591	0	0	21 0	7.443	8.9	35,291
	Kenai	11 4	42	68 1	10.012	0	0	93 0	315.762	87.5	4 349	100.0	51	78 7	27,815	90 7	358.111
	Fish	23.7	87	2 4	349	0	0	0 3	955	0 6	28	0	0	0 3	116	0.4	1.535
	Total	100 0	367	100.0	14.710	100.0	19	100.0	339.368	100.0	4.968	100.0	51	100.0	35.454	100.0	394,937

Appendix Table D-3. Run composition estimates of sockeye salmon catches by age group and date for the Kalifonsky Beach set net fishery, Upper Cook Inlet, 1982.

Date	System	1.1		1.2		2.1		1.3		2.2		1.4		2.3		2.4		Total	
		%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
6/25	Susitna	45.1	4	17.9	150	0	0	22.4	913	9.1	20	0	0	38.8	356	22.4	2	23.8	1,445
thru	Kenai	0.4	0	0.9	8	0	0	6.5	265	1.6	4	0	0	2.6	24	6.5	1	5.0	302
7/09	Kasilof	54.5	5	81.2	682	0	0	71.1	2,902	89.3	199	0	0	58.6	537	71.1	6	71.2	4,331
	Fish	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace	Trace	Trace
	Total	100.0	9	100.0	840	0	0	100.0	4,080	100.0	223	0	0	100.0	917	100.0	9	100.0	6,078
7/12	Susitna	0	0	15.5	620	0	0	10.5	2,185	7.2	69	0	0	26.6	460	0	0	12.1	3,334
thru	Kenai	0	0	13.7	548	0	0	55.4	11,566	22.6	216	100.0	60	32.8	568	0	0	46.9	12,958
7/16	Kasilof	0	0	69.8	2,790	0	0	33.2	6,939	70.0	668	0	0	40.1	694	0	0	40.1	11,091
	Fish	0	0	1.0	40	0	0	0.9	188	0.2	2	0	0	0.5	9	0	0	0.9	239
	Total	0	0	100.0	3,998	0	0	100.0	20,878	100.0	955	100.0	60	100.0	1,731	0	0	100.0	27,622
7/19	Susitna	0	0	15.7	1,034	0	0	10.8	3,571	7.3	198	0	0	27.1	446	0	0	11.9	5,249
thru	Kenai	0	0	13.5	889	0	0	55.1	18,306	22.1	599	0	0	32.2	531	0	0	46.0	20,325
7/20	Kasilof	0	0	70.8	4,664	0	0	34.1	11,346	70.6	1,915	0	0	40.7	670	0	0	42.1	18,595
	Fish	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	0	0	Trace	Trace
	Total	0	0	100.0	6,587	0	0	100.0	33,223	100.0	2,712	0	0	100.0	1,647	0	0	100.0	44,169
7/21	Susitna	0	0	10.8	397	0	0	3.8	1,246	4.2	42	0	0	13.0	239	0	0	4.9	1,924
thru	Kenai	0	0	40.4	1,486	0	0	84.2	27,738	55.2	554	0	0	67.4	1,240	0	0	78.6	31,018
7/22	Kasilof	0	0	48.8	1,796	0	0	12.0	3,959	40.6	407	0	0	19.6	361	0	0	16.5	6,523
	Fish	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	0	0	Trace	Trace
	Total	0	0	100.0	3,679	0	0	100.0	32,943	100.0	1,003	0	0	100.0	1,840	0	0	100.0	39,465

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Appendix Table D-3. Run composition estimates of sockeye salmon catches by age group and date for the Kalifonsky Beach set net fishery, Upper Cook Inlet, 1982 (continued).

		1.1		1.2		2.1		1.3		2.2		1.4		2.3		2.4		Total	
Date	System	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
7/23	Susitna	0	0	13.9	1,050	0	0	7.0	2,615	5.9	230	0	0	20.5	469	0	0	8.5	4,364
thru	Kenai	0	0	23.6	1,782	0	0	70.9	26,607	36.1	1,404	0	0	48.6	1,112	0	0	60.3	30,905
7/24	Kasilof	0	0	62.5	4,720	0	0	22.1	8,306	58.0	2,256	0	0	30.9	707	0	0	31.2	15,989
	Fish	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	0	0	Trace	Trace
	Total	0	0	100.0	7,552	0	0	100.0	37,528	100.0	3,890	0	0	100.0	2,288	0	0	100.0	51,258
7/25	Susitna	0	0	12.3	1,386	0	0	5.2	1,497	5.0	188	0	0	16.6	457	0	0	7.6	3,528
thru	Kenai	0	0	31.2	3,517	0	0	78.1	22,301	45.2	1,698	0	0	58.1	1,601	0	0	62.8	29,117
7/26	Kasilof	0	0	56.5	6,369	0	0	16.7	4,756	49.8	1,871	0	0	25.3	697	0	0	29.6	13,693
	Fish	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	0	0	Trace	Trace
	Total	0	0	100.0	11,272	0	0	100.0	28,554	100.0	3,757	0	0	100.0	2,755	0	0	100.0	46,338
7/27	Sisitna	38.0	32	12.6	1,201	41.6	35	5.5	1,378	5.2	209	0	0	17.3	521	0	0	8.1	3,376
thru	Kenai	15.7	13	29.7	2,831	0	0	76.9	19,162	43.5	1,746	100.0	84	56.4	1,698	0	0	61.2	25,534
8/15	Kasilof	46.3	39	57.7	5,501	58.4	49	17.6	4,378	51.3	2,059	0	0	26.3	792	0	0	30.7	12,818
	Fish	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	0	0	Trace	Trace
	Total	100.0	84	100.0	9,533	100.0	84	100.0	24,918	100.0	4,014	100.0	84	100.0	3,011	0	0	100.0	41,728
Total	Susitna	38.7	36	13.4	5,838	41.6	35	7.4	13,405	5.8	956	0	0	20.8	2,948	22.4	2	9.0	23,220
	Kenai	14.0	13	25.5	11,061	0	0	69.1	125,945	37.6	6,221	100.0	144	47.7	6,774	6.5	1	58.5	150,159
	Kasilof	47.3	44	61.0	26,522	58.4	49	23.4	42,586	56.6	9,375	0	0	31.4	4,458	71.1	6	32.4	83,040
	Fish	Trace	Trace	0.1	40	0	0	0.1	188	Trace	2	0	0	0.1	9	Trace	Trace	0.1	239
	Total	100.0	93	100.0	43,461	100.0	84	100.0	182,124	100.0	16,554	100.0	144	100.0	14,189	100.0	9	100.0	256,658

Appendix Table D-4. Run composition estimates of sockeye salmon catches by age group and date for the Cohoe/ Ninilchik Beach set net fishery, Upper Cook Inlet, 1982.

Date	System	1.1 %	1.1 Numbers	1.2 %	1.2 Numbers	1.3 %	1.3 Numbers	2.2 %	2.2 Numbers	1.4 %	1.4 Numbers	2.3 %	2.3 Numbers	Total %	Total Numbers
6/25	Kenai	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace
thru	Kasilof	100.0	16	100.0	824	100.0	5,695	100.0	327	100.0	16	100.0	2,023	100.0	8,901
6/28	Fish	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	100.0	16	100.0	824	100.0	5,695	100.0	327	100.0	16	100.0	2,023	100.0	8,901
7/02	Kenai	0	0	0.8	27	6.3	857	1.3	13	0	0	3.2	73	4.8	970
thru	Kasilof	0	0	98.8	3,332	93.0	12,647	98.6	961	0	0	96.4	2,204	94.6	19,144
7/05	Fish	0	0	0.4	13	0.7	95	0.1	1	0	0	0.4	9	0.6	118
	Total	0	0	100.0	3,372	100.0	13,599	100.0	975	0	0	100.0	2,286	100.0	20,232
7/09	Kenai	1.5	2	3.1	121	21.3	2,377	5.1	44	0	0	11.9	174	15.5	2,718
	Kasilof	69.9	92	95.0	3,722	75.9	8,468	94.5	816	0	0	86.5	1,264	81.9	14,362
	Fish	28.6	38	1.9	75	2.8	312	0.4	3	0	0	1.6	23	2.6	451
	Total	100.0	132	100.0	3,918	100.0	11,157	100.0	863	0	0	100.0	1,461	100.0	17,531
7/12	Kenai	3.2	2	4.8	225	30.0	3,742	7.7	90	0	0	17.3	191	21.8	4,250
	Kasilof	96.8	63	95.2	4,454	70.0	8,732	92.3	1,080	0	0	82.7	914	78.2	15,243
	Fish	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	100.0	65	100.0	4,679	100.0	12,174	100.0	1,170	0	0	100.0	1,105	100.0	19,493
7/16	Kenai	3.3	4	6.0	363	34.7	7,962	9.5	122	0	0	20.8	436	27.4	8,887
7/17	Kasilof	78.9	91	93.0	5,632	64.0	14,685	90.3	1,157	0	0	78.4	1,643	71.4	23,208
	Fish	17.8	21	1.0	61	1.3	298	0.2	2	0	0	0.8	17	1.2	399
	Total	100.0	116	100.0	6,056	100.0	22,945	100.0	1,281	0	0	100.0	2,096	100.0	32,494
7/18	Kenai	2.5	7	10.1	1,158	47.9	15,899	16.1	295	0	0	31.9	848	36.8	18,207
thru	Kasilof	68.0	187	86.2	9,879	48.2	15,998	83.2	1,526	0	0	65.5	1,742	59.4	29,332
7/19	Fish	29.5	81	3.7	424	3.9	1,294	0.7	13	0	0	2.6	69	3.8	1,881
	Total	100.0	275	100.0	11,461	100.0	33,191	100.0	1,834	0	0	100.0	2,659	100.0	49,420

-Continued-

Appendix Table D-4. Run composition estimates of sockeye salmon catches by age group and date for the Cohoe/ Ninilchik Beach set net fishery, Upper Cook Inlet, 1982 (continued).

Date	System	1.1 %	1.1 Numbers	1.2 %	1.2 Numbers	1.3 %	1.3 Numbers	2.2 %	2.2 Numbers	1.4 %	1.4 Numbers	2.3 %	2.3 Numbers	Total %	Total Numbers
7/20	Kenai	0	0	23.1	2,365	71.5	26,106	33.4	945	0	0	55.5	2,617	59.0	32,033
thru	Kasilof	0	0	75.6	7,741	27.6	10,077	66.4	1,878	0	0	43.8	2,065	40.1	21,761
7/22	Fish	0	0	1.3	133	0.9	329	0.2	6	0	0	0.7	33	0.9	501
	Total	0	0	100.0	10,239	100.0	36,512	100.0	2,829	0	0	100.0	4,715	100.0	54,295
7/23	Kenai	0	0	19.2	2,189	66.8	18,178	28.1	1,092	0	0	49.6	1,028	50.4	22,487
thru	Kasilof	0	0	80.8	9,214	33.2	9,035	71.9	2,795	0	0	50.4	1,045	49.6	22,089
7/24	Fish	0	0	Trace	Trace	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	0	0	100.0	11,403	100.0	27,213	100.0	3,887	0	0	100.0	2,073	100.0	44,576
7/25	Kenai	0	0	20.4	2,767	68.0	18,711	30.0	2,093	0	0	51.5	400	49.1	23,971
thru	Kasilof	0	0	77.7	10,540	30.6	8,420	69.7	4,862	0	0	47.4	368	49.5	24,190
7/26	Fish	0	0	1.9	258	1.4	385	0.3	21	0	0	1.1	8	1.4	672
	Total	0	0	100.0	13,565	100.0	27,516	100.0	6,976	0	0	100.0	776	100.0	48,833
7/27	Kenai	24.4	38	32.9	1,747	80.6	12,715	44.6	836	0	0	67.0	628	66.4	15,964
thru	Kasilof	75.6	118	67.1	3,563	19.4	3,060	55.4	1,039	0	0	33.0	309	33.6	8,089
8/15	Fish	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	100.0	156	100.0	5,310	100.0	15,775	100.0	1,875	0	0	100.0	937	100.0	24,053
Total	Kenai	7.0	53	15.5	10,962	51.7	106,547	25.1	5,530	Trace	Trace	31.8	6,395	40.5	129,487
	Kasilof	74.6	567	83.2	58,901	47.0	96,817	74.7	16,441	100.0	16	67.4	13,577	58.3	186,319
	Fish	18.4	140	1.3	964	1.3	2,713	0.2	46	0	0	0.8	159	1.2	4,022
	Total	100.0	760	100.0	70,827	100.0	206,077	100.0	22,017	100.0	16	100.0	20,131	100.0	319,828

Appendix Table D-5. Run composition estimates of sockeye salmon catches by age group and date for the Northern District east-side set net fishery, Upper Cook Inlet, 1982.

Date	System	1.1		1.2		2.1		1.3		2.2		2.3		Total	
		%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers
6/25-7/12	Susitna	37.4	67	75.6	801	0	0	65.9	359	83.1	149	89.1	93	71.1	1,469
	Kenai	0.1	Trace	1.6	17	0	0	8.1	44	6.1	11	2.6	3	3.6	75
	Fish	62.5	112	22.8	241	0	0	26.0	142	10.8	19	8.3	9	25.3	523
	Total	100.0	179	100.0	1,059	0	0	100.0	545	100.0	179	100.0	105	100.0	2,067
7/16-7/19	Susitna	0	0	84.1	3,759	0	0	67.9	17,234	81.0	1,164	90.0	2,011	72.1	24,168
	Kenai	0	0	4.1	183	0	0	19.7	5,000	14.1	203	6.1	136	16.5	5,522
	Fish	0	0	11.8	528	0	0	12.4	3,147	4.9	70	3.9	87	11.4	3,832
	Total	0	0	100.0	4,470	0	0	100.0	25,381	100.0	1,437	100.0	2,234	100.0	33,522
7/23	Susitna	26.5	17	61.0	969	0	0	40.0	1,712	58.0	301	74.0	312	48.2	3,311
	Kenai	0.7	1	8.7	138	0	0	34.1	1,459	29.6	154	14.7	62	26.4	1,814
	Fish	72.8	47	30.3	482	0	0	25.9	1,109	12.4	64	11.3	48	25.4	1,750
	Total	100.0	65	100.0	1,589	0	0	100.0	4,280	100.0	519	100.0	422	100.0	6,875
7/26-8/30	Susitna	26.5	62	61.0	1,183	100.0	39	40.0	2,236	58.0	248	74.0	316	47.2	4,084
	Kenai	0.7	2	8.7	169	0	0	34.1	1,906	29.6	126	14.7	63	26.2	2,266
	Fish	72.8	169	30.3	588	0	0	25.9	1,448	12.4	53	11.3	48	26.6	2,306
	Total	100.0	233	100.0	1,940	100.0	39	100.0	5,590	100.0	427	100.0	427	100.0	8,656
Total	Susitna	30.6	146	74.1	6,712	100.0	39	60.2	21,541	72.7	1,862	85.7	2,732	64.6	33,032
	Kenai	0.6	3	5.6	507	0	0	23.5	8,409	19.3	494	8.3	264	18.9	9,677
	Fish	68.8	328	20.3	1,839	0	0	16.3	5,846	8.0	206	6.0	192	16.5	8,411
	Total	100.0	477	100.0	9,058	100.0	39	100.0	35,796	100.0	2,562	100.0	3,188	100.0	51,120

Appendix Table D-6. Run composition estimates of sockeye salmon catches by age group and date for the Northern District west-side set net fishery, Upper Cook Inlet, 1982.

Date	System	1.1		1.2		2.1		1.3		2.2		3.1		1.4		2.3		Total	
		%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers	%	Numbers
6/25-7/12	Susitna	93.1	17	83.7	177	0	0	68.7	326	92.1	81	0	0	0	0	82.1	101	76.7	702
	Kenai	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	0	0	Trace	Trace	Trace	Trace
	Crescent	0	0	15.2	32	0	0	30.1	143	7.4	7	0	0	0	0	17.6	22	22.3	204
	Fish	6.9	1	1.1	2	0	0	1.2	6	0.5	Trace	0	0	0	0	0.3	Trace	1.0	9
	Total	100.0	18	100.0	211	0	0	100.0	475	100.0	88	0	0	0	0	100.0	123	100.0	915
7/16	Susitna	84.6	141	83.4	2,366	100.0	83	59.6	7,311	77.5	1,035	0	0	0	0	81.8	1,230	66.9	12,166
	Kenai	1.0	2	5.4	153	0	0	23.1	2,834	18.0	241	0	0	0	0	7.4	111	18.3	3,341
	Crescent	0	0	8.6	244	0	0	14.9	1,828	3.5	47	0	0	0	0	10.0	150	12.5	2,269
	Fish	14.4	24	2.6	74	0	0	2.4	294	1.0	13	0	0	0	0	0.8	12	2.3	417
	Total	100.0	167	100.0	2,837	100.0	83	100.0	12,267	100.0	1,336	0	0	0	0	100.0	1,503	100.0	18,193
7/19	Susitna	0	0	93.9	2,428	0	0	76.1	15,196	0	0	76.3	79	0	0	92.2	763	78.3	18,466
	Kenai	0	0	4.3	111	0	0	20.5	4,093	0	0	20.5	21	78.8	81	5.8	48	18.4	4,354
	Crescent	0	0	1.6	42	0	0	3.2	639	0	0	3.2	3	21.2	22	1.9	16	3.1	722
	Fish	0	0	0.2	5	0	0	0.2	40	0	0	0	0	0	0	0.1	1	0.2	46
	Total	0	0	100.0	2,586	0	0	100.0	19,968	0	0	100.0	103	100.0	103	100.0	828	100.0	23,588
7/23-9/01	Susitna	74.3	289	88.8	3,914	0	0	76.8	13,242	89.7	466	0	0	0	0	90.9	1,414	79.7	19,325
	Kenai	0.3	1	1.7	75	0	0	8.7	1,500	6.1	32	0	0	37.9	49	2.4	37	7.0	1,694
	Crescent	0	0	4.0	176	0	0	8.3	1,431	1.8	9	0	0	62.1	81	4.8	75	7.3	1,772
	Fish	25.4	99	5.5	243	0	0	6.2	1,069	2.4	12	0	0	0	0	1.9	30	6.0	1,453
	Total	100.0	389	100.0	4,408	0	0	100.0	17,242	100.0	519	0	0	100.0	130	100.0	1,556	100.0	24,244
Total	Susitna	77.9	447	88.5	8,885	100.0	83	72.2	36,075	81.4	1,582	76.3	79	0	0	87.5	3,508	75.7	50,659
	Kenai	0.5	3	3.4	339	0	0	16.9	8,427	14.1	273	20.5	21	55.8	130	4.9	196	14.0	9,389
	Crescent	0	0	4.9	494	0	0	8.1	4,041	3.2	63	3.2	3	44.2	103	6.5	263	7.4	4,967
	Fish	21.6	124	3.2	324	0	0	2.8	1,409	1.3	25	0	0	0	0	1.1	43	2.9	1,925
	Total	100.0	574	100.0	10,042	100.0	83	100.0	49,952	100.0	1,943	100.0	103	100.0	233	100.0	4,010	100.0	66,940

Appendix Table D-7. Run composition estimates of sockeye salmon catches by age group and date for the Kalgin Island set net fishery, Upper Cook Inlet, 1982.

Date	System	1.1 %	1.1 Numbers	1.2 %	1.2 Numbers	2.1 %	2.1 Numbers	1.3 %	1.3 Numbers	2.2 %	2.2 Numbers	1.4 %	1.4 Numbers	2.3 %	2.3 Numbers	Total %	Total Numbers
6/25	Susitna	0	0	16.9	103	0	0	18.2	1,132	8.7	29	0	0	35.4	354	19.8	1,618
thru	Kenai	0	0	3.0	18	0	0	19.2	1,194	5.5	19	0	0	8.7	87	16.2	1,318
7/05	Kasilof	0	0	76.7	470	0	0	57.8	3,594	85.1	284	0	0	53.7	536	59.8	4,884
	Crescent	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Fish	0	0	3.4	21	0	0	4.8	299	0.7	2	0	0	2.2	22	4.2	344
	Total	0	0	100.0	612	0	0	100.0	6,219	100.0	334	0	0	100.0	999	100.0	8,164
7/09	Susitna	0	0	16.9	205	41.8	4	18.8	692	8.8	58	0	0	35.9	241	19.1	1,200
thru	Kenai	0	0	2.1	26	0	0	13.8	508	3.8	25	100.0	20	6.2	42	9.9	621
7/16	Kasilof	0	0	76.0	931	58.2	6	59.8	2,198	86.2	572	0	0	54.5	367	65.0	4,074
	Crescent	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Trace
	Fish	0	0	5.2	64	0	0	7.6	280	1.2	8	0	0	3.4	23	6.0	375
	Total	0	0	100.0	1,226	100.0	10	100.0	3,678	100.0	663	100.0	20	100.0	673	100.0	6,270
7/19	Susitna	30.5	12	15.6	201	0	0	12.6	1,021	7.8	110	0	0	28.7	485	14.6	1,829
thru	Kenai	2.8	1	8.3	107	0	0	39.8	3,222	14.7	207	0	0	21.1	357	31.1	3,894
7/24	Kasilof	37.0	15	70.9	913	0	0	40.1	3,245	76.4	1,077	0	0	43.5	736	47.8	5,986
	Crescent	0	0	2.4	31	0	0	4.6	372	0.5	7	0	0	5.1	86	4.0	496
	Fish	29.7	12	2.8	36	0	0	2.9	235	0.6	9	0	0	1.6	27	2.5	319
	Total	100.0	40	100.0	1,288	0	0	100.0	8,095	100.0	1,410	0	0	100.0	1,691	100.0	12,524
7/26	Susitna	0	0	17.9	388	0	0	21.8	917	9.1	312	0	0	38.3	1,103	21.4	2,720
thru	Kenai	0	0	1.2	26	0	0	9.1	384	2.2	75	0	0	3.8	109	4.7	594
9/06	Kasilof	0	0	80.9	1,756	0	0	69.1	2,914	88.7	3,035	0	0	57.9	1,668	73.9	9,373
	Crescent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Fish	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	0	0	100.0	2,170	0	0	100.0	4,215	100.0	3,422	0	0	100.0	2,880	100.0	12,687
Total	Susitna	30.5	12	16.9	897	41.8	4	16.9	3,762	8.8	509	0	0	35.0	2,183	18.6	7,367
	Kenai	2.8	1	3.3	177	0	0	23.9	5,308	5.6	326	100.0	20	9.5	595	16.2	6,427
	Kasilof	37.0	15	76.9	4,070	58.2	6	53.8	11,951	85.2	4,968	0	0	53.0	3,307	61.3	24,317
	Crescent	0	0	0.6	31	0	0	1.7	372	0.1	7	Trace	Trace	1.4	86	1.3	496
	Fish	29.7	12	2.3	121	0	0	3.7	814	0.3	19	0	0	1.1	72	2.6	1,038
	Total	100.0	40	100.0	5,296	100.0	10	100.0	22,207	100.0	5,829	100.0	20	100.0	6,243	100.0	39,645

Appendix Table D-8. Run composition estimates of sockeye salmon catches by age group and date for the Central District west-side set net fishery, Upper Cook Inlet, 1982.

Date	System	1.1 %	1.1 Numbers	1.2 %	1.2 Numbers	2.1 %	2.1 Numbers	1.3 %	1.3 Numbers	2.2 %	2.2 Numbers	1.4 %	1.4 Numbers	2.3 %	2.3 Number	Total %	Total Number
6/18	Susitna	0	0	74.7	173	0	0	54.9	2,265	87.0	318	0	0	71.4	904	61.1	3,360
thru	Crescent	0	0	25.3	58	0	0	45.1	1,860	13.0	47	100.0	7	28.6	362	38.9	2,334
6/28	Fish	0	0	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	0	0	100.0	231	0	0	100.0	4,125	100.0	365	100.0	7	100.0	1,266	100.0	5,994
7/02	Susitna	100.0	23	44.7	273	0	0	25.0	1,989	64.6	88	0	0	40.6	230	28.0	2,603
thru	Crescent	0	0	55.3	338	0	0	75.0	5,968	35.4	48	0	0	59.4	336	72.0	6,690
7/12	Fish	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace	0	0	Trace	Trace	Trace	Trace
	Total	100.0	23	100.0	611	0	0	100.0	7,957	100.0	136	0	0	100.0	566	100.0	9,293
7/16	Susitna	0	0	52.0	230	0	0	31.6	1,879	71.1	28	0	0	49.2	257	34.4	2,394
thru	Crescent	0	0	44.6	197	0	0	65.7	3,907	26.9	11	0	0	49.8	260	63.0	4,375
7/23	Fish	0	0	3.4	15	0	0	2.7	160	2.0	1	0	0	1.0	5	2.6	181
	Total	0	0	100.0	442	0	0	100.0	5,946	100.0	40	0	0	100.0	522	100.0	6,950
7/26	Susitna	0	0	48.2	742	100.0	30	28.0	854	67.8	123	0	0	44.5	121	36.9	1,870
thru	Crescent	0	0	50.5	777	0	0	71.0	2,164	31.4	57	0	0	55.1	150	62.1	3,148
9/10	Fish	0	0	1.3	20	0	0	1.0	30	0.8	1	0	0	0.4	1	1.0	52
	Total	0	0	100.0	1,539	100.0	30	100.0	3,048	100.0	181	0	0	100.0	272	100.0	5,070
Total	Susitna	100.0	23	50.2	1,418	100.0	30	33.2	6,987	77.1	557	0	0	57.6	1,512	38.5	10,527
	Crescent	0	0	48.5	1,370	0	0	65.9	13,899	22.6	163	100.0	7	42.2	1,108	60.6	16,547
	Fish	Trace	Trace	1.3	35	0	0	0.9	190	0.3	2	0	0	0.2	6	0.9	233
	Total	100.0	23	100.0	2,823	100.0	30	100.0	21,076	100.0	722	100.0	7	100.0	2,626	100.0	27,307